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Hunterian Lecture
ON
THE BIOLOGY OF TUMOURS.

Delivered before the Royal College of Surgeons of England on March 9th, 1914,

BY C. MANSELL MOULLIN, M.A., M.D. OXON., F.R.C.S. ENG.,
HUNTERIAN PROFESSOR; CONSULTING SURGEON TO THE LONDON HOSPITAL.

MR. PRESIDENT, FELLOWS AND MEMBERS OF THE COLLEGE,—In the Bradshaw lecture which I had the honour of delivering before this College in November, 1912,[1] I endeavoured to show that the problem that underlies the biology of tumours is not the nature of the force that makes tumours grow, for growth, ceaseless, continuous growth, is a property innate in all living tissues, whether they form part of a tumour or not, but the nature of the force that can suddenly, at some particular spot, bring development to a standstill and liberate this innate power of growth so that the tissues increase and multiply as they will, free from all control. To-day I hope to be able to show that the action of this force can, in some instances at any rate, be traced back to interference with the chemical changes in the tissues upon which their development depends, and that the causes that give rise to this interference must be regarded as essential factors in the production of tumours.

THE INFLUENCE OF DEVELOPMENT OVER GROWTH AND REPRODUCTION.

Growth is part of the life of living things, and reproduction is only growth beyond the individual. The power of growth and reproduction is born in all living things with their birth, lives with them throughout their lives, and dies with them when they die. In the primitive forms of life this power knows no bounds. External conditions such as temperature and the supply of food are the only check upon it. But as development progresses and becomes more complex, the capacity for growth and reproduction diminishes, until at last, when the higher grades of specialisation are reached, the power of reproduction is all but lost, and even that of growth is greatly restricted.

The story of the race is an illustration of the way in which the progress of development deprives the primitive power of growth and reproduction of all its capabilities, one after the other. The first to disappear is the power of forming germs for the reproduction of the race. In the earliest forms of animal life this is common to the whole organism. Very soon it becomes limited to one small segment, which is specialised for this alone, and is lost to all the rest. The next is the power of forming buds able to reproduce the individual—a power still retained by such organisms as marine worms. A little later this is followed by the power of reproducing organs and limbs, though this still exists in a limited way even in animals so highly organised as reptiles. At last, all that is left of the original almost unlimited power is the ability to reproduce simple structures such as tissues. Throughout the history of the race, beginning from the earliest times, step by step as organisation advances and development becomes more complex the primitive power of growth and reproduction becomes more and more restricted.

What is true of the history of the race is no less true of the history of the individual. In the earliest moments of existence the power of growth and reproduction is almost unbounded, and is shared by all parts of the embryo alike. The first step is the differentiation of the germ cells from the rest which from that moment cease to have any direct concern with the maintenance of the race. The ability to throw off buds that can grow into organisms like the parent disappears almost at the same time; then the power of reproducing portions of the body such as limbs and organs. In a little while all that is left to the somatic cells of the almost unlimited capacity they once possessed is the power to reproduce tissues—highly complex ones—in early embryonic life, only those that are comparatively simple in adult years. And at last when specialisation has reached its highest point, as in the organs of special sense, even this is no longer possible. The power of growth remains, but not that of reproduction. As the tissues become better and better adapted to their own special work, and as their differentiation advances, they lose the ability to perform the general duties that once were common to them all, and with it their birthright, the power to grow and reproduce their kind. Growth and reproduction become more and more limited as development advances.

TUMOURS FORMED BY GEMMATION, NOT BY FISSION.

Tumours originate as buds, by a process of gemmation, from tissues that are apparently normal. Structures formed by fission or division are not tumours in the same sense of the term. Unless prevented by mechanical conditions the parts into which they divide develop equally. A fertilised ovum, for example, or in the case of unicellular reproduction, a bud that has just been detached from the parent organism, may increase in size so fast that any slight accident or movement is enough to cause the primary segments to separate from each other. If the separation is complete and the other conditions are favourable, two distinct organisms are produced, resembling each other so closely that even late in life they cannot always be distinguished, as in the well known instance of the two poachers who, although they had been convicted, one it is believed 39 times and the other 53, were yet a hopeless puzzle to the village constable and the bench. If the separation is incomplete the result is one of those double monstrosities so common in our museums, which sometimes are born alive and even reach old age. The same thing is true of bifid limbs and other organs. They originate in the same way, at a later stage, as the products of overgrowth of normal structures or of too rapid growth. Sometimes, when one part is developed fully and the other remains stunted and atrophied, it is not easy to recognise the relation they bear to each other, but, as Bland-Sutton has pointed out, their origin can always be ascertained by their similarity at the point of division. Structures such as these should be placed in a class by themselves. They differ from what are commonly called tumours in one essential particular—there is no arrest of development except such as may be caused by pressure or other mechanical causes.

OF THE DIFFERENT KINDS OF TUMOURS.

Buds that grow out from normal tissues and form tumours always develop along the same line as the parent stock, but never reach a higher stage and

[1] THE LANCET, Dec. 7th, 1912, p. 1567.

rarely rise so high. The only natural classification of tumours, therefore, is that which is based upon their origin.

To be exact and logical, tumours should be divided into three classes—those which spring from the primitive organism before it is differentiated into germ and somatic portions and those which grow later in life from one or other of these. Such lines of division are, however, impossible; there is no such thing in nature. Long after the separation of the germ and somatic cells is apparently complete and final they can either of them regain and use all the powers they once possessed. The somatic cells, for instance, in many of the lower forms of life retain the power of producing germs throughout their whole existence, though they may never exercise it, and even in animals so highly organised as the Echinodermata the cells that compose the ova can be artificially displaced in such a way that the somatic ones perform all the functions of the germ cells, and *vice versâ*. Normal development cannot be divided by hard-and-fast lines into separate stages, nor can the tumours that originate during those stages. In man especially is this impossible, owing to the enormous compression the early periods of development have undergone. Changes that have taken geological epochs to develop in the race are epitomised to such an extent in man that they barely require as many days.

It is, therefore, of no use trying to distinguish tumours growing from germ or somatic cells from those that arise in the primitive organism before the primary division has taken place; nor to separate those that grow from the ovary from those that originate in the as yet undifferentiated germ organ. But this does not hold good in the same degree of tumours that are formed later in life, after the early embryonic days are past. As development advances germ cells and somatic cells diverge from each other more and more, and the tumours that spring from them become proportionately distinct. These two great groups, therefore, can be separated from each other except at the point where they touch—their origin; and I shall take those that spring from the germ organ and its derivatives, the ovary and testis, first.

TUMOURS THAT GROW FROM THE GERM ORGAN OR ITS DERIVATIVES.

The function assigned to the primitive germ organ in the general division of labour is that of reproduction, or growth beyond the individual. It is specialised for this. At its origin it knows nothing about distinctions of sex. All reproduction at this stage of evolution is asexual. How and when it first came about that germs to reproduce the race, instead of growing from a single cell, should require a stimulus coming from a second one to start them on their course, is no part of the present inquiry; but it is obvious that germs formed in this way, by the fusion of parts of two cells, would stand a far better chance of success in the struggle for existence than those formed from a single cell, if only because of the greater likelihood of the occurrence of useful variations. When this bicellular origin was once initiated, the division of the primitive germ organ into two parts, an ovary and a testis, each providing its own special factor in reproduction; the maturing of the two products at different times, so that the conjunction of two separate individuals would be required and the comparative weakness of self-fertilisation eliminated; and then the suppression of one of these organs in one of the individuals and of the other in the other, with the result of separating the sexes entirely, are such obvious advantages that they follow almost as a matter of course.

Sexual reproduction, however, which bulks so largely in our vision that it hides from view the fact that asexual reproduction is the birthright of all living tissues, is merely a specialisation. The primitive germ organ does not die out or lose all its power when the ovary and testis are formed. The original method of carrying on its work persists in the background long after bisexual reproduction has been introduced, and if occasion requires can be brought into play again at once. In many insects, for example, generations in all respects identical with those that precede them, are produced asexually, even though a functional testis is in existence; and in animals so highly specialised as frogs, ova that have never been fertilised by spermatozoa can be made to develop even into the tadpole stage by applying a suitable chemical stimulus. The same thing within narrower limits is true of the germ organ in man. The original method of reproduction not only persists through the early days of embryonic life, but is often called into action. Buds developed asexually from the germ organ or its derivatives, and capable of attaining a high degree of perfection, occur in many different forms. The most elaborate are known as included fœtuses. These spring from the as yet undifferentiated germ organ, in the very earliest moments of existence, before the sexual organs are laid down, and occur therefore in both sexes. Others, not quite so perfect, composed of organs sometimes well developed and arranged more or less regularly, are known as internal teratomata. These probably develop from the ovary, but just as the stage in which the germ organ is still undifferentiated shades into and overlaps that in which there is a functional ovary, so no hard-and-fast line can be drawn between these and included fœtuses. Ovarian dermoids which do not make their appearance until considerably later undoubtedly arise from the asexual development of ova, and the same thing is true of what are known as ovarian adenomata, in which the degree of differentiation is still more limited. There is one long unbroken series of tumours arising from the germ organ and its derivative, the ovary, beginning with an organism that is almost as perfect as its parent, and ending in a shapeless mass of the simplest tissue. Just as in the evolution of the race the primitive method of reproduction slowly disappears, leaving behind it here and there traces that show what it once could do, so in the individual, this same power, which is so strong in the early embryo, gradually becomes feebler and feebler until at last it almost dies out. The tumours that grow as buds from the germ organ and its derivatives are the expression of so much of the primitive power of asexual reproduction as the parent stock retains at the moment, freed in some way from the influence that should control it.

The testis, it may be remarked, the complementary half of the primitive germ organ, does not retain this power in anything like the same degree, probably because its work is more highly specialised. The included fœtuses described by Verneuil in connexion with it are either derived from ovarian rests embedded in the paradidymis, as suggested by Bland-Sutton, or more probably from persisting

fragments of the as yet undifferentiated germ organ.

TUMOURS THAT GROW FROM THE SOMATIC CELLS.

In the earliest days of life the somatic cells are in all respects the equals of the germ cells and possess the same powers. As soon as the germ organ is marked off they cease to exercise the function of germ production, and in a little while lose the capacity for it. Their mission in life is the support and maintenance of the individual, not that of the race, and they retain only so much of the primitive power of asexual reproduction as this requires. Just at first they are able to reproduce portions of the body more or less perfectly. The little projections that are sometimes found in the mammalian embryo growing at the sites of limbs that have been lost early in life are in all probability examples of this. But so far as man is concerned the power of reproduction retained by the somatic cells after the first few days does not extend beyond the reproduction of tissues; and as specialisation advances, the limits within which so much as this is possible become narrower and narrower.

The power of tumour formation possessed by the somatic cells runs a closely parallel course. In the earliest days of embryonic life they can throw out buds capable of growing into tumours scarcely to be distinguished from those that are formed by the germ cells at the same date. Not improbably some of the included fœtuses and teratomata that are met with in unlikely localities arise in this way instead of in misplaced germ cells, the origin usually assigned to them. For a little while longer they retain the power of forming such structures as accessory limbs and organs. But when once this very short period in their life-history is over the somatic cells are not able to form any kind of complex tumour. Their power is limited to the production of those composed of simple tissues, and as specialisation advances they lose even this. Very highly specialised structures do not possess the power either of reproduction or of tumour formation. They have lost both.

The character of the tumour bud that grows from the somatic tissues depends upon that of the parent stem. Just as tumours that grow from the germ cells reproduce the arrangement of the parent structure more or less perfectly, so do those that grow from the somatic cells. Every organ and every tissue in the body has its own special kind. Even those tumours that grow from apparently identical tissues in different regions of the body and are called by the same name present certain differences among themselves. The only exception is in the case of tumours springing from corresponding spots on the opposite sides of the body. These may resemble each other so nearly that they really deserve to be called identical. Leaving these upon one side, the classification of the tumours that spring from the somatic tissues, after the time for embryonic reproductions is past, simply rests upon the system of classification that is adopted for the tissues themselves. Each organ and each tissue has its own.

CLINICAL CHARACTERS AS A BASIS FOR CLASSIFICATION.

Clinical characteristics are of no value for the classification of pathological growths such as tumours. Whether a tumour is what we call malignant or not depends upon the degree of maturity already reached by the cell from which the tumour bud first branched off upon its independent career. It makes no difference whether the parent is a connective tissue corpuscle, or an epithelial cell in a secreting gland or in an ovarian follicle. If the parent cell has already progressed so far as to have acquired distinctive characteristics, without having gone so far as to lose the power of reproduction altogether, the bud that grows from it will imitate it more or less closely; growth will be slow, and as the size of the tumour increases, surrounding structures will be pushed upon one side out of the way. Adenomata, for instance, originate as buds built of cells that resemble, but are never so perfect as those of the parent gland. But if, on the other hand, the parent stock is still in the embryonic stage of life, composed of young rapidly growing cells, such as those that spring up among older ones to replace what is worn out or lost, the cells that form the tumour bud will be of a corresponding embryonic type, capable of multiplying with all the energy of embryonic cells and of spreading into and invading everything around. Cancer does not arise from tissues in the perfection of development, but from those that are engaged in a process of restoration or repair, in circumstances which from age or other causes are unfavourable, and in which, therefore, the development of the young growing cells is liable to be interrupted.

It has been tacitly assumed, because of certain clinical features, most if not all of which are capable of a different and a better explanation, that there is an essential difference between cancer and sarcoma on the one hand, and all other kinds of tumour on the other. It has never been proved and it is not supported by the evidence. Cancer is not a definite entity nor is sarcoma. The cancer of one organ differs from the cancer of every other organ, and the cancer of each individual person is as different from the cancer of all other individuals as his constitution is from theirs. The cancer cell or the sarcoma cell, like the cells of other tumours, is the descendant of a normal tissue cell, which in its earliest youth, while still retaining all its primitive reproductive power, has suddenly assumed an individuality of its own and is no longer bound by the laws that control the growth and development of its host.

If the organism were represented as a single stem dividing into two great branches, one composed of germ cells and the other of somatic cells; and if the former of these branches were represented as dividing, in its turn, into two, one for the ovary and the other for the testis, and the latter into a number as countless as the different organs and tissues of which the body is composed, tumours would be represented as aberrant buds springing at any point from young cells in the parent stem or one of its divisions. Each bud would develop in the same direction as the branch on which it grew, but would never attain quite the same perfection. The cells that lie at the base of the bud would determine the structure of the tumour. A bud, for example, that grew from the parent stem would become almost as complex as the nearest branch, while one that grew from a topmost twig would be composed of only the simplest tissues. But the character of the tumour, whether malignant or not, would depend, not upon the height to which the branch had grown before the bud came off, but upon the degree of maturity of the cells at the base of the bud. The bud that would form an innocent tumour if the parent cell had nearly

reached maturity will grow into a malignant one if it is still in the embryonic stage. Every innocent tumour has its counterpart among malignant growths. Innocent and malignant spring alike from the same cells, but in the one case the parent has already reached, or nearly reached, maturity, for it is doubtful if fully mature cells ever form tumours; in the other it is still in the embryonic stage, with all the embryonic vigour of growth unimpaired.

Sarcoma and carcinoma are artificial groups, not natural ones. It is not possible to define or limit either of them. Because all cells resemble each other in their embryonic stage, regardless of locality or future destiny, the tumours that spring from them at this stage naturally resemble each other too, for the tumour cell never advances in development beyond the point the parent has reached at the moment of its birth. For this reason, because there is this superficial resemblance, all tumours springing from embryonic tissues, or tissues resembling them, have hitherto been grouped together under one or other of these names. But there are great differences in the potentialities of these tumour cells, though they may appear to be so much alike, because there are great differences in the potentialities of the cells from which they spring, and the tumours show these differences if they are looked for. The cancer of one organ is entirely different from the cancer of every other organ, and the clinical history of periosteal sarcoma varies with the bone to which the periosteum belongs. Each organ and each tissue has its own variety of malignant tumour, just as it has its own variety of innocent tumour, though the microscope may be unable to distinguish them, and the innocent tumours of each organ shade off by imperceptible stages into the malignant ones, so that together they form one group. No line can be drawn between them. The structure of a tumour depends upon that of the parent tissue; its character, whether it will be innocent or malignant, depends upon the degree of maturity of the cell that gives off the bud.

FEATURES COMMON TO ALL TUMOURS.

There are certain features common to all tumours. They become much more common as the tissues grow old. They occur most frequently in parts of the body that are liable to be irritated, in which, therefore, young growing cells are always abundant. Their size continues to increase as long as they can get supplies. Their development never advances. It never surpasses that of the parent at the moment that the bud was formed, and seldom equals it. Their individuality is their own, and they yield no obedience to the laws that govern the growth and development of the host on which they live. They are, in other words, buds that have grown beyond the individual, products of that power of asexual reproduction which is the birthright of all the tissues.

The problem of the biology of tumours turns upon the question why one particular cell, or group of cells, suddenly ceases to develop, ceases to advance along the lines laid down for it in the past, and, instead, makes use of all that it still retains of its primitive power of growth and reproduction to give birth to what is to all intents and purposes another individual. What, in other words, is the reason why development comes to a standstill, and the growth of the individual cell, or group of cells, is suddenly given up for growth beyond the individual?

THE EFFECT OF INTERFERING WITH THE CHEMISTRY OF THE TISSUES.

Growth and development are both the outcome of the chemical changes that take place in living tissues—the changes upon which their life depends. This is acknowledged in the case of growth. Foreign substances come into contact with a living cell. They are absorbed by it and broken up in it by catalytic agents. The products of this catalysis are built up again in a different combination, and if the addition exceeds the consumption the result is, first, increase in size, and then, if circumstances are favourable, increase in number, each newly formed cell possessing the same power as the parent of which it once was part.

The same thing is true of development. Development, like growth, is the outcome of chemical changes that take place in the living cell, but with this difference, that while growth depends upon the maintenance of all the reactions in their relative proportions, development depends upon the predominance of one. Development is the result of one of these chemical reactions, or rather of one series of them, being carried on in excess of all the rest for generation after generation. Division of labour means that every part of the body has to undertake a special kind of work. Special work entails a special chemical reaction or series of reactions. The more thoroughly the work is done, the more completely does this special reaction predominate over all the others at that particular spot. This, continued in the same group of cells for generation after generation, of necessity involves progressive modification of chemical constitution and of structure, or, in other words, development.

The layer of cells, for example, on the exterior of the organism, always exposed to foreign influences, becomes modified in course of time. They become harder and more resistant. Keratin or some similar substance forms in them, and as generation succeeds generation and a similar modification takes place in each, at last an outer protecting layer is developed characteristic of that particular kind of organism. The same thing is true of the cells that line the digestive tract. Their special work, or one part of it, is the manufacture and discharge of catalytic ferments. The chemical reactions upon which their working depends have been gradually evolved in the course of ages from simpler ones of the same kind. According to Twort and others the process of chemical evolution is still going on. New ferments are being formed, even at the present time, to deal with new conditions, and structure and arrangement are modified accordingly. So it is with other tissues and other parts of the body—those, for example, that are concerned with the transmission of impulses from one organ to another. Special work involves the evolution of special chemical reactions; and as generation succeeds generation and the reactions become better adapted to the end in view, the structure and arrangement of the part become modified to suit. Development, in other words, is the outcome of the persistent cultivation of a special series of chemical actions, necessitated by the special work the part has been called upon to do.

If these chemical changes are interrupted at any point before the reaction is completed; if, for example, some essential factor fails to be supplied at the right moment, or an unnecessary one is introduced, the special work that depends upon

that reaction is brought to an immediate standstill; differentiation ceases with it, and no matter at what stage it may be, whether it is nearly completed or only just beginning, development comes to an end. Growth, on the other hand, because it is not concerned in the least with this special reaction, continues as before, but with all the conditions changed. The native power of asexual reproduction, which is kept under control so long as development is progressing, is now set free in its full strength, and the result is a tumour—a growth that reproduces more or less accurately the structure of the parent tissue, whatever it may be at the moment, with an individuality of its own, incapable of higher development, for the special chemical reaction upon which development depends is broken off, but capable of increasing in size so long as it can draw supplies.

THE PRODUCTION AND THE DISAPPEARANCE OF TUMOURS.

So little is known of the intimate nature of the chemical changes that take place in the tissues that it is not easy to cite instances in which the failure of any particular one has led directly to the cessation of development and the production of a tumour. There are, however, many isolated facts that point in this direction. One of these relates to the occasional disappearance of tumours. It is well known that tumours, especially those of an embryonic type, sometimes stop growing, diminish in size, and even disappear under the influence of remedies which can only act through the medium of the general nutrition. Carcinoma of the breast, for example, has been known to shrink in size and even to disappear after oöphorectomy. The same thing occasionally happens without special treatment of any kind, perhaps more frequently than is usually believed. At least it is difficult in any other way to account for the single successes of weird remedies which are recorded from time to time, apparently in perfect good faith, and which can never be repeated. In the case of most of these it is not possible to say how or by what means the remedy acts; but in some it is almost certain that the effect is due to the reagent entering into chemical combination with the living substance of the tumour cells. Arsenic, for instance, administered internally sometimes causes lymphadenomatous growths to recede and almost disappear. Then, only too often, after a little while the growth begins to increase in size again, and now the same drug, even in far larger doses, has absolutely no effect. The same thing is true of Coley's toxins in cases of sarcoma. It is not uncommon to find that a sarcomatous growth diminishes greatly in size after a few injections, without disappearing altogether, and then starts growing again in a form that is absolutely resistant even to much larger quantities. The tumour cells, in other words, have acquired immunity and have become arsenic-fast or toxin-fast, as the case may be, just as Ehrlich has shown the spirochæta can, and for the same reason—the drug has entered into chemical combination with some element in the substance of the growing cell.

Another of these facts, in many ways even more striking, relates to the production of tumours. It is generally admitted that the continued employment of certain substances, in industry as well as in medicine, is liable to be followed by the growth of certain kinds of tumours. The substances themselves are not the immediate cause of the growth. There is often an interval of years between their administration and the appearance of the tumour. But they initiate such changes in the nutrition of the tissues that when irritation of any kind, whether it is mechanical or chemical or due to the action of living organisms, leads to the rapid production of a large number of young cells, some of these cells fail to develop as they otherwise would, and form the basis from which a tumour grows. This has long been known in connexion with arsenic. The late Sir Jonathan Hutchinson was the first to lay emphasis upon the fact that the prolonged internal administration of arsenic sometimes led to the development of multiple epitheliomata. The nutrition of the skin becomes affected; its texture becomes altered, and then, at some spot where continued irritation leads to the rapid production of a number of young cells, epithelioma develops.

A closely similar course of events has been described in connexion with some of the anilin dyes, only in this case the tumours do not involve the skin but the urinary organs, and assume different forms according to their origin. Rehn in 1906 had already collected more than 30 cases of workers in fuchsin who were suffering from some form of tumour of the bladder. Leuenberger has collected many more, and has shown that in Basle the deaths caused by tumours of the bladder in the years 1901–10 were 33 times more common among the workers in anilin colours and similar substances than they were among the rest of the male population; and that more than half of the cases of tumour of the bladder observed in the last 50 years in the male surgical clinic at Basle came from dyers and those engaged in anilin dye works. In the majority of the cases observed by Leuenberger himself the growth was a carcinoma, but in some it was a sarcoma and in others it was mixed. Some grew in the bladder, others in the kidney and ureter; and what is of peculiar significance, in some instances the growths did not make their appearance, or at least cause symptoms, until years after the worker had left his employment. A similar condition of things has been recorded of the workers in the cobalt mines of the Schneeberg, only in this case the growths which are equally varied in their character are met with in the lungs. The papillomata and other tumours that so often follow the continued application to the skin of soot, tar, paraffin, and the like, arise in a similar manner. Some substance is absorbed and affects the nutrition and the functional activity of the skin, so that it becomes harsh and dry. The cells no longer carry on their special work as they should. Their development, which depends upon their work, ceases to advance. The power of growth and asexual reproduction, on the other hand, which is theirs so long as they are living, and which does not depend upon any special reaction, is not affected. The result is an unlimited multiplication of cells the degree of whose development depends upon that of the parent stock at the moment. If the affected cells have all but reached perfection before the interference is felt, the buds that grow from them are all but perfect too. The tumour is composed of tissues that resemble those of the normal skin. But if owing to irritation, whether it is mechanical or chemical, or due to the action of living organisms, there is a great increase in the proportion of young rapidly growing cells, and the development of these is checked, the buds that spring from them resemble them, and then the

growth increases rapidly in size and spreads wherever it can.

Facts such as these, it seems to me, admit of but one explanation. Tumours, no matter what their clinical character may be, are caused by the sudden escape from control of the innate power of asexual reproduction present in some measure in all tissues as part of their life. So long as development is advancing, growth and reproduction are under control. But development depends upon special work, and work in its turn depends upon the special chemical reactions which have been evolved in the course of ages and are still being evolved. If these reactions are interfered with, whether by the addition of strange elements or the failure to supply necessary ones, work comes to an end; development stops with it; and the power of growth and reproduction, or that measure of it which the tissues possess at the moment, is set free without limit, except in so far as supplies are concerned, and without control.

In the illustrations I have given the interference with the nutrition and the chemical reactions of the tissues has been caused by the slow continuous working of substances introduced into the body from without. Some have entered through the digestive tract, others through the lungs, and others again through the skin. It does not seem to me unwarrantable to assume that a similar interference can be caused by substances produced in the body itself, more especially as age advances. It need not necessarily be at the place from which the tumour grows. It may be at some distant spot from which the substance is carried by the blood stream, as it is, for example, in the case of arsenic. It may be some minute difference in one of the constituent elements of which we are as yet incapable of judging, or there may be an additional one introduced, or some essential one may fail at the moment it is wanted. Whatever it is, this I venture to say is the direction in which we are to look for the next great advance in the biology of tumours, and this is the direction in which investigation should be made.

THE TECHNIQUE OF THE OPERATION OF SCLERO-CORNEAL TREPHINING FOR GLAUCOMA.

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WHEN the writer left India the Madras figures showed over 900 trephinings, and the number of surgeons who had learnt to practise this operation there could be counted by tens. Since then he has had the opportunity of trephining 135 eyes in the course of a tour in America, and of performing the same operation on a number of cases in England. In both countries he has had the great advantage of receiving very valuable suggestions from those who attended his demonstrations. The object of this paper is to place the experience so gained at the disposal of others.

1. *In which quadrant of the eye should the trephining be performed?*—It is obvious that under most circumstances the upper is the quadrant of choice, for (1) the wound is then less exposed to infection; (2) the iridectomy, if one is performed, lies under cover of the lid; (3) the conjunctival flap rarely requires a stitch when made above; and (4) the measurement from the angle of the anterior chamber to the limbus, and consequently the space available for the implantation of a trephine, is greatest above. It is not, however, possible to trephine above the cornea in all cases, and it is inconvenient to do so in some others—viz., (1) when a patient is troublesome, and looks obstinately upward; (2) when the operation is undertaken for the relief of staphyloma, and the upper part of the cornea is involved in the swelling; (3) when, in chronic cases, it is obvious that the chamber is shallower in an upward direction than elsewhere; and (4) when a condition similar to the last named is due to anterior synechia, accompanied by rise of tension.

2. *The nature of the flap and the method of making it.*—In making the conjunctival flap one should avoid the brow with the scissors; if this be not done the eyebrows will be cut and dropped on to the wound, thus soiling it.

(i.) *The incision.*—The conjunctiva should be seized as high up as possible on the bulb with forceps, and drawn well down, at the same time asking the patient to look strongly downward; one free cut in the direction in which the flap is to be made, followed by a couple of snips at each side, will often outline the flap throughout its extent. The incision we now employ runs roughly concentric with the limbus, and ends on either side opposite the highest point of the cornea, and about 8 mm. to its inner and outer sides.

(ii.) *The dissection of the flap.—It is unnecessary, and therefore unsurgical, to dissect up the whole area included in the flap;* moreover, by so doing we rob the flap of the check-ligament-like action of the connective tissue at the angles of the wound. If we leave this tissue intact, the detached conjunctiva tends to spring back into place when released from the downward pull, whilst if we clear the margins of our wound we find that at the end of the operation the flap falls limp and inert over the cornea like a loose apron. We should for this reason carry our dissection down to the limbus over the central area only. Such a procedure does not in the least prevent us from exposing the part we require for trephining, whilst it helps very materially to make our flap lie in good position when the operation is finished, and so often enables us to dispense with the use of a suture. In the upper portion of the dissection we do not need to take up anything but the loose conjunctiva. *As we approach the limbus we should work down to the sclera, and should expose the latter bare in the last few millimetres of the wound.* At the same time the breadth of the dissection should contract as we approach the cornea, so that when we reach the latter we only expose just such a breadth of it as we mean to split, and very little more. Our *next landmark is the limbus, and we must clearly define this* as a rounded ridge slightly overhanging the adjacent sclera. A failure to do so involves a considerable risk of difficulty when we come to split the cornea in the next stage of the operation. *The area over which we are about to apply the trephine must be carefully cleared of all tags of loose tissue;* if this precaution is neglected, the trephine will not bite well, and will tend to shift from its position; moreover, when it does begin to cut, these tags may get caught in the action and tend to draw the flap into the wound and damage it. There is a little knack in getting the sclera clear; this consists in closing the blades of a sharp-pointed scissors (those we have used so far in the

operation), and making a number of scraping movements *from the centre of the wound out to each side*, close above the cornea; this manœuvre succeeds in clearing the central area of loose tissue, and so provides a clean surface on which to apply the trephine blade at a later stage of the operation.

(iii.) *The splitting of the cornea.*—It must first be clearly stated that what we desire to do is to *split the cornea* and not to cut it. For this purpose the conjunctival flap should be drawn gently downwards by traction with closed forceps laid on it, and finding counter-pressure against the cornea; it must on no account be seized in the grip of forceps and pulled down therewith, or it may easily be torn and rendered useless for covering the filtration hole. At the same time, the cornea is split with the scissor points, which are kept closed for the purpose; or any other convenient instrument may be employed. The most important point is to *work at exactly the right place*—i.e., just behind the line of reflection of the flap; a number of short lateral strokes along this line speedily effect our purpose in most cases. If the cuts are made too far forwards the flap is at once button-holed, whilst if they are made too far back the surgeon merely wastes his time in an ineffective scratching of the sclera. The instrument is inclined at an acute angle to the cornea, bearing in mind that what we want to do is to peel off the superficial layers in a thin flap. As the dissection proceeds the so-called "dark crescent" of cornea can be seen clearly as a dark area convex in outline towards the sclera, and with a straight edge on the corneal side.

3. *The application of the trephine.*—With increasing experience one thing has become absolutely clear—viz., that if we wish to trephine the chamber and to establish a permanent filtering channel with a minimum of trouble, we have to be careful to place our trephine hole as far forward as possible; the flap should be pulled gently towards the centre of the cornea by traction exerted with the points of the closed forceps, and the trephine placed on the prepared corneo-scleral surface so that its edge will *just clear* the flap, thus making use of every fraction of a millimetre of the area which has been gained by the splitting; the dark crescent of corneal tissue bordering the base of the flap can very easily be seen and defined. The trephine should not be dumped down on the spot on which it is to work, but should be slid into place from the scleral side, the edge of the flap being keenly watched the while; this manœuvre greatly minimises the risk of button-holing the reflected edge. The *exact amount of pressure necessary* can only be learnt by experience. The adoption of the heavier handle which we now use has greatly simplified this part of the technique. No pressure need be used, as the instrument works by its own weight, and consequently the tendency of the fingers to slip down is practically abolished. All the instrument makers who manufacture the author's trephine have been requested to supply in future the heavier weight of handle—viz., one of ½ oz. *The direction in which the blade of the trephine is to be held relative to the corneo-scleral surface* is a matter of great importance. Our object should therefore be to make the blade cut through first on its corneal edge, and in order to ensure this we must slope its handle-end a little towards the patient's feet. The result will be that as soon as the trephine has cut its way through, the disc, hinged on its scleral side, will be pushed upwards and backwards by a bead of iris tissue, prolapsing through the corneal side of the opening. If the manœuvre is correctly carried out this prolapse occurs with great regularity. It is, however, dependent on two factors—(1) the presence of a moderately contracted pupil before the operation is commenced, and (2) the use of a sharp trephine. The next question of importance is *the size of trephine* to use. We have tried all sizes from 3·5 mm. down to 1 mm., and our personal preference is, on the whole, in favour of a 2 mm. instrument. An opening of this size is practically always large enough, whilst a smaller one has this grave disadvantage—that it does not give room for the use of iris forceps and scissors, should the iris happen to be accidentally dragged into the wound and impacted there.

4. *The iridectomy: its nature and the method of performing it.*—An iridectomy should be made, as a routine step, in every trephining operation, simply to avoid the risk of iridic tissue becoming impacted in the trephine aperture during convalescence. It is a common experience that the trephine disc, when cut by hand (as opposed to the use of a mechanical trephine), remains attached at one point to the scleral coat by a narrow hinge. With a little practice it is possible, as indicated in the last section, so to trephine that the hinge is regularly left on the scleral side of our wound. When this is done with a sharp trephine which cuts its way through round a large part of the circumference we find that the iris bulges into the hole as soon as we withdraw the instrument. The appearance of the little white disc, pushed upwards by the small black bead of iris is characteristic, and it is an easy matter to include both disc and iris in one grip of the forceps and to divide both together with a single snip of the scissor points, thus performing our iridectomy with the same cut that severs the hinge. The great advantage of this is that our grip of the disc steadies the eye and effectively prevents even a troublesome patient from rotating it until after the portion of iris has been removed. We are thus enabled to avoid all risk of the uveal tissue being dragged into and becoming impacted in the trephine hole. When the prolapse is free and large, it is necessary to avoid seizing the whole of it in the forceps grip; it is not difficult to lay hold of just so much of it as lies near the disc—i.e., the peripheral portion only—and we thus obtain a marginal button-hole coloboma.

Having satisfied ourselves that the iris is well returned we next replace the conjunctival flap in good position, by first laying it back over the raw surface from which it was dissected up, and then stroking it well into place with the aid of a spoon or of some similar rounded and blunt instrument. If after so doing, the surgeon waits a minute or two, he will soon see whether the flap is going to adhere to its bed or not. If it rapidly becomes stuck down, and if the gap made by the incision in the conjunctiva is easily reduced to very narrow proportions, he can confidently close the eye and dismiss the patient to bed. But if the wound gap is wide, and if the flap shows a tendency to be very easily displaced by slight movements of the globe, it is better to insert a suture at once rather than to risk the inconvenience of having to do so the next day.

The toilette of the wound.—It is most important that the iris should be thoroughly replaced, and that no uveal tags should be left in the wound. For this purpose we use a small irrigator, and placing the nozzle at the entrance of the trephine hole, we direct a bold stream of aseptic saline solution into

the chamber; this easily and quickly washes the iris back into place, always provided that it has not been dragged into the wound and impacted there at an earlier stage of the procedure. At the same time the chamber is washed free of any blood which has been effused, thus giving us a clear view of details. Finally, the upper lid is lifted off the eyeball and brought down to meet the lower one, the patient being at the same time told to look up and to close his eyes. Immediately before doing this, however, we gently stroke the cornea toward the trephine hole with a curette, in order to ascertain whether the eyeball is still soft, and whether the escape of aqueous from the chamber is free. Both eyes are then closed with aseptic pads and a bandage.

Instillation of drops.—Our rule is to avoid all instillation immediately after operation unless the pupil shows a tendency towards upward displacement, in which case eserine drops (gr. 4 ad oz. 1) are instilled. On the third day, provided that the tension is down, we drop in a solution of atropine (gr. 4 ad oz. 1) unless the pupil is already widely dilated and active.

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ON THE NATURE OF RODENT ULCER:

ITS RELATIONSHIP TO EPITHELIOMA ADENOIDES CYSTICUM OF BROOKE AND TO OTHER TRICHO-EPITHELIOMATA OF BENIGN NÆVOID CHARACTER; ITS DISTINCTION FROM MALIGNANT CARCINOMA.

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Rodent ulcer, ever since it was first described by Jacob of Dublin in 1827, has continued to attract great attention in this country. It has been looked upon by most British observers as distinct in its clinical features and in its pathology from other forms of malignant epithelioma of the skin. Continental authorities, with but few exceptions, which include particularly Unna, of Hamburg, and Dubreuilh, of Bordeaux, have not until recent years recognised rodent ulcer as a special type of epithelioma.

Dubreuilh and Auché in 1901, in an important monograph on rodent ulcer,[1] summarise very clearly the history of the differentiation of rodent ulcer from squamous-cell epithelioma in this country. They divide it into three periods. The first period extends from its description by Jacob to Hutchinson's memoir in 1860. During this period the clinical characters of rodent ulcer were discussed and it was separated from "epithelioma" of the face, which invaded the glands and of which the malignancy was obvious. In the next period the differences between the histological characters of rodent ulcer and of squamous-cell epithelioma were considered—it was pointed out that the cells of rodent ulcer were smaller than those of squamous-cell epithelioma, that they were arranged in lobules, and that they did not form horny cell-nests. Rodent ulcer was recognised as an epithelial growth, but was refused the name of "epithelioma," which was reserved for the frankly malignant growths with horny pearls. These ideas reached their climax with the work of Thin in 1886. Then followed a third period in which the origin of the cells of rodent ulcer was investigated by Beadles, Bidwell, Bowlby, Colcott Fox, Paul, Spencer, Norman Walker, Hutchinson, Thin, and Kanthack (and it may be added by Noon). Most observers regarded it as taking origin from the hair follicles or sebaceous glands, though some thought it might arise from sweat glands.

In Germany rodent ulcer was confounded with other varieties of epithelioma of the skin until Unna and Thiersch called attention to the work of English authorities on the subject. Later German writers recognise rodent ulcer as a special type of epithelioma arising in connexion with the hair follicles, and call it tricho-epithelioma. In France the English work was entirely ignored until Dubreuilh wrote on the subject.

The object of this paper is to bring forward evidence in support of the view that rodent ulcer is an affection distinct from true malignant carcinoma and to expand a suggestion which was made by the writer in the Goulstonian lectures in 1912[2] that rodent ulcer belongs to the class of nævoid growths which include adenoma sebaceum and multiple benign cystic epithelioma (or tricho-epithelioma papulosum).

True carcinoma cannot be regarded as a nævoid growth or an awakened embryonic cell-rest in the sense of Cohnheim's theory. It is more readily explained as an unrestrained proliferation of epithelial cells due to disturbance of the anatomical relationships and of the normal balance of growth between the epithelial and the connective tissue, as the result of previous damage to the skin.

A striking feature in the etiology of squamous cell epithelioma, in contrast to that of rodent ulcer, is that it arises always upon skin or mucous membrane which has been previously damaged by injury or which has been the seat of long-continued local irritation. Among these "precancerous" conditions are scars from burns, old syphilitic scars or the scars of lupus, chronic irritation of the lower lip from pipe-smoking, leucoplakia of the tongue or vulva, the scars of X ray burns, and, perhaps most common of all, the results of chronic dermatitis produced by frequent exposure to sunlight and known as keratosis senilis, sailor's skin or tropical skin. The same may be said of carcinoma, which occurs at the pylorus, in the gall duct or gall bladder, at the cervix uteri, and in the lower part of the bowel. All these parts are liable to chronic inflammation or ulcerations, and carcinoma in these spots is probably consecutive to these conditions. The theory of dormant embryonic masses cannot explain these facts. The formation of carcinoma can be more reasonably attributed to an irregular proliferation of the epithelial cells, as a result of the loss of normal relations between the epidermis and the subjacent tissue. The anatomical balance between different tissues which normally prevents the epithelium from invading the connective tissue is disturbed by damage and partial repair. Disturbance of the anatomical balance is assisted possibly by an upset of the biochemical balance owing to alterations in the nutrition and metabolism of the cells due to age or to the harmful action of agents such as light or X rays.

In sections of keratosis senilis and of X ray scars one may study this gradual disturbance of the balance of growth, beginning with irregular restoration of the epidermis, through warty growths, to the final stage, in which the irregular growths of the epidermis advance completely out of line and invade the spaces between the connective tissue cells. The study of these affections of the skin would seem to suggest that

[1] Annales de Dermatologie et de Syphiligraphie.

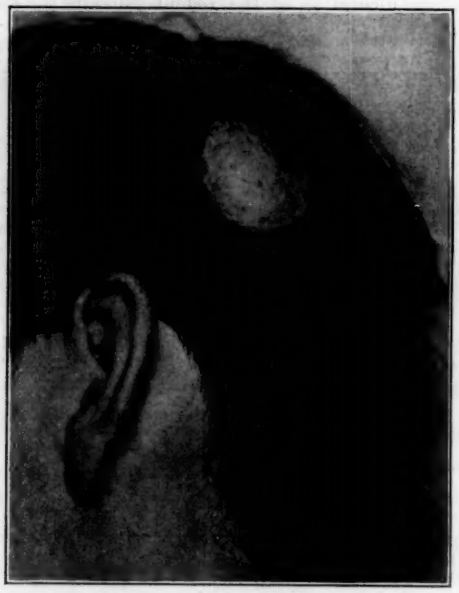
[2] THE LANCET, April 20th, 1912, p. 1041.

true carcinoma, in whichever situation, is the result of a disturbance of the normal balance of growth between epithelial and adjacent tissues as the result of previous damage, and there seems to be no need to invoke the aid of embryonic cell-rests or of microbic invasion.

FIG. 1.

Case 1. Epithelioma adenoides cysticum. Reproduction of photograph showing numerous raised rounded tumours situated especially round the eyelids, at the sides of the nose, on the temples, and about the ears.

FIG. 2.



Case 2. From photograph showing the two largest tumours on the scalp. These will be recognised as the growths known as "multiple benign endotheliomata (or correctly, epitheliomata) of the scalp." They were associated in this patient with epithelioma adenoides cysticum of the face, where the growths were similar in number and distribution to those of the mother (Case 1).

FIG. 3.

A

Diagram illustrating sites of origin of 220 cases of rodent ulcer (basal-celled carcinoma) on the face. (Dr. J. H. Sequeira.)

B

Diagram showing the distribution of the tumours in a case of epithelioma adenoides cysticum (Case 1).

In rodent ulcer, on the contrary, the growths arise, not in areas which have been the site of previous damage, but in regions where benign growths of similar structure and admittedly nævoid nature are known to occur. Rodent ulcer, moreover, does not occur on mucous membranes. Although it destroys subjacent tissues, it does not invade the lymphatic spaces. Corresponding with the absence of lymphatic invasion, gland infection, and metastases there is an absence of the general disturbance of the health—of the cachexia—which accompanies true carcinoma.

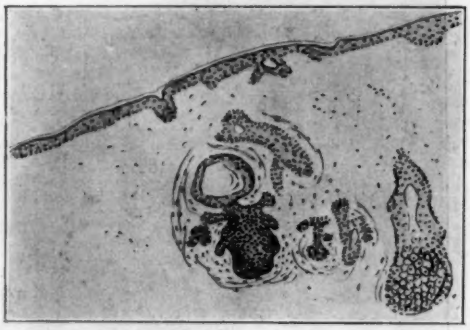
In THE LANCET of Oct. 17th, 1908, I published an account of two cases of multiple rodent ulcer, and drew attention to the close resemblance between the histological features of multiple rodent ulcer and the benign nævoid growths known as epithelioma adenoides cysticum of Brooke. Both these

affections are epithelial growths derived from those cells of the basal layer of the epidermis which are normally destined to become pilo-sebaceous follicles; in one word, both are tricho-epitheliomata. They differ mainly in that the rodent ulcer tumours appear late in life and tend to ulcerate, while the benign form appears in childhood and does not ulcerate. They have the same distribution, and before ulceration of the rodent tumours the same clinical appearance. That these affections were in some way related was not a new view, and Jarisch had already suggested the name "tricho-epithelioma papulosum multiplex" for Brooke's disease, and "tricho-epithelioma papulosum rodens" for multiple rodent ulcer.

At the time of writing the paper referred to I had had no opportunity of studying any example of Brooke's affections at first hand, but the following cases have recently come under my care, and they fully confirm the opinion I then expressed as to the close resemblance of rodent ulcer to the "benign' tumours.

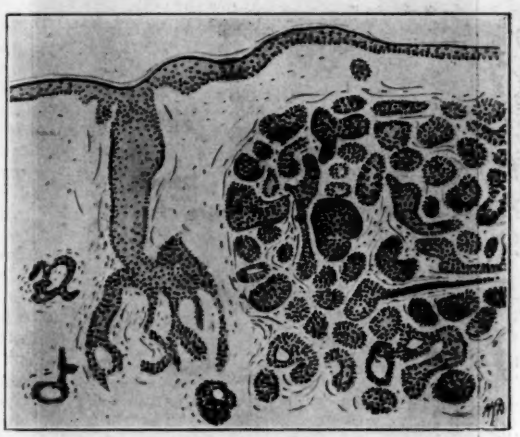
Four cases of epithelioma adenoides cysticum in one family.—These cases show the resemblance to rodent ulcer in appearance, distribution, and pathological anatomy of the growths.

FIG. 4.



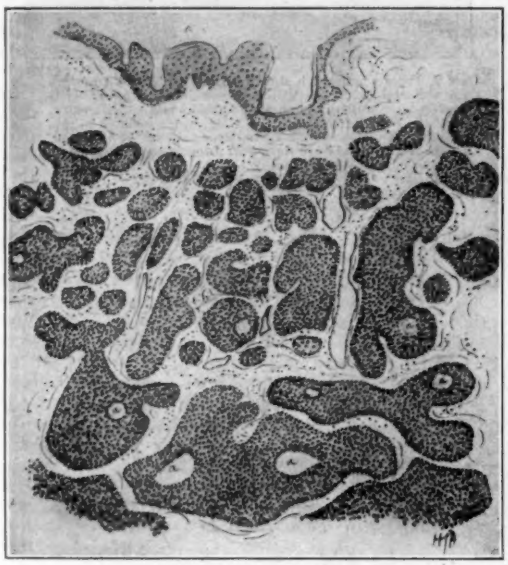
Section at the margin of a tumour from the forehead of Case 1, showing early tricho-epithelioma and a small sebaceous gland. (In Figs. 4, 5, and 8 the sections were kindly prepared by Mr. R. G. Canti.)

FIG. 5.



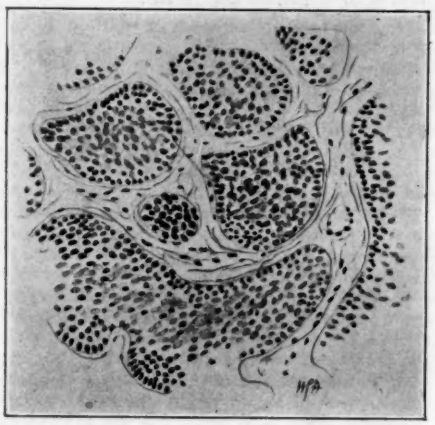
Section from a small tumour from the face of Case 1, showing lobulated growth resembling rodent ulcer.

FIG. 6.



Section from a large tumour of the scalp from Case 2, showing lobulated growth resembling rodent ulcer; at *a*, *a*, *a*, *a* are "cysts." (In Figs. 6 and 7 the sections were kindly prepared by Mr. K. J. A. Davis.)

FIG. 7.



Section (high-power) from large tumour in Case 2, showing lobules made up of oval cells with large nucleus and little or no visible protoplasm. The section shows also the hyaline bodies described by Dubreuilh in sections from a similar case of benign epithelioma of the scalp.

CASE 1.—Housewife, aged 45 years. The eruption was first noticed at the age of 35–37 years. This is not in accordance with the rule that these benign growths appear in late childhood or at about puberty. But they may have been small and unnoticed by the patient, as in the case of her daughter which will be presently mentioned. They increased gradually and more noticeably after confinements. The "eruption" consists of raised rounded nodules, varying in size from that of a pin's head up to nodules half an inch

across. They are situated (Fig. 1) in groups: (1) in the naso-labial furrow; (2) at the inner side of the orbit; (3) on the temples; and there are scattered nodules on the forehead and cheeks, on the sides of the neck and behind the ear, on the scalp, and on the shoulders. The nodules are raised, firm, hemispherical, almost waxy in appearance, of the colour of the skin, or, in the case of the larger nodules, dusky red. Minute vessels are coursing over the larger nodules. They all have much the appearance of the rolled edge of a rodent ulcer, but none are ulcerated or crusted, and there are no scars. The nodules on the temples, at the inner orbits, and in the naso-labial furrows are small, from pin-head to split-pea size, and closely packed.

CASE 2.—A son of the previous patient, aged 21 years, presents similar nodules on the face in the same situations and also several much larger spherical nodules on the scalp. The latter are as large as walnuts and prevent him putting on his hat, except at an acute angle. (Fig. 2.) Nothing was noticed on his face until two years ago, but the largest nodule appeared on the head three years ago, and rapidly increased to its present size. The nodules on the scalp are free from hair. There is also a nodule on the chest below the right clavicle, raised, flat, red, and as large as half a marble. The largest nodule on the scalp was removed and examined microscopically.

Incidentally it may be remarked that this case is an example of the so-called endothelioma of the scalp of Spiegler and Mulert, which Dubreuilh and Auché have shown to be a benign epithelioma derived from the basal-cell layer of the epidermis, and to resemble histologically rodent ulcer.[2] The association of the multiple tumours of the scalp in this case with epithelioma adenoides cysticum is interesting and helps to place these tumours in their true position as tricho-epitheliomata, as suggested by their histology. Friebos has recently published a similar case of multiple benign tumours of the scalp associated with multiple tumours of the face, trunk, and limbs. He regards the face and body tumours as tricho-epithelioma (epithelioma adenoides cysticum), but thinks the scalp tumours are of sweat-gland origin. The present writer agrees with Dubreuilh that, although the microscopical appearances of the scalp tumours somewhat suggest a sweat-gland origin, it can be demonstrated that they are really tricho-epitheliomata.

CASE 3.—Another son has recently developed nodules on the scalp, but at present none on the face.

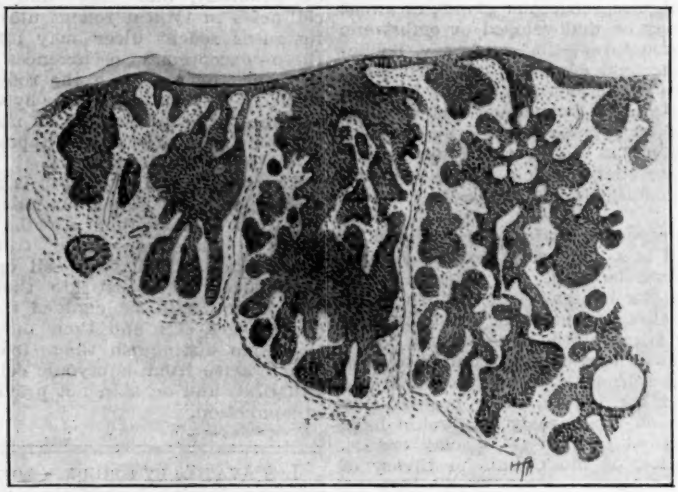
CASE 4.—Another member of this family, a girl, aged 10, has one pin-sized nodule in the left naso-labial furrow, and one on the forehead. These are raised and have a pearly look. With a lens several smaller nodules can be seen on the cheeks and the sides of the nose.

The mother of this family states that she has eight children living, and three of these are affected thus:—Unaffected: girl, aged 4 years; four boys, 7, 9, 14, and 16 years; girl, 11 years, a few; two boys, 19 and 21, both affected. The mother's mother and one of her own aunts were also subjects of the disease. It is noteworthy that in most of the published cases mother and daughter have been affected, and seldom the male side.

It is interesting to compare the distribution of the lesions in the case of the mother and of the son with a diagrammatic record of the distribution of 220 cases of rodent ulcer which has been kept by Dr. J. H. Sequeira, and which was published in the Transactions of the Royal Society of Medicine for 1913. It will be readily seen how strikingly they agree. (Fig. 3.)

But it is not only in their appearance and in their distribution that these tumours resemble rodent ulcer; their histological characters are closely similar, so that a section of one of these growths might be pardonably mistaken for one of rodent ulcer. The accompanying drawings from sections of growths in these two cases show that they are made up of oval cells derived from the epidermis. (Figs. 4, 5, 6, and 7.) In the case of one section (from Case 1) there is a strong suggestion of origin from the pilo-sebaceous follicle. (Fig. 4.) These cells, which so closely resemble the cells of rodent ulcer, are arranged in lobules with a marginal palisade layer, and cystic formations similar to those seen in rodents are present here and there. There is no ulceration, and the plasma-cell infiltration is replaced by a fibrous tissue barrier, but otherwise the resemblance is striking.

FIG. 8.



Section of growth from lower eyelid (Case 5) which had been present since childhood. It is obviously a basal-cell epithelioma of rodent ulcer type. It was associated with a typical rodent ulcer of the naso-labial fold, which had appeared in middle life.

Before the completion of the study of these cases another patient came under my observation with a condition which seems to show in a still more conclusive manner the relationship between rodent ulcer and benign tricho-epithelioma.

CASE 5.—*Non-ulcerated tumour of the lower eyelid (tricho-epithelioma) present since birth, associated with rodent ulcer of the nasolabial-fold which appeared in middle age.*—The patient, a male aged 37, had two growths, one on the left lower eyelid and one on the left naso-labial furrow. The growth in the lower eyelid was a raised, flat, oval, disc-like nodules ¼ inch in its longer diameter, firm, semi-translucent, and rather redder than the normal skin. It was not ulcerated or crusted. It had been present since childhood—as long as the patient could remember. The growth at the side of the nose was somewhat larger, ulcerated, and with the raised

[2] Epithéliomes Bénins Multiples du Cuir Chevelu—Dubreuilh and Auché, Annales de Dermatologie et de Syphiligraphie, 1902, p. 545.

rolled edge of a rodent ulcer. It was a typical rodent, and it had been noticed only two years.

Both nodules were excised. The lower eyelid nodule was a lobulated growth springing from the epidermis and made up of oval cells, with a marginal palisade layer. Except for the absence of ulceration it would easily pass for a rodent ulcer. (Fig. 8.) The other growth was a typical rodent ulcer.

In this case the lower eyelid tumour was of the class which has been described by Darier as hidradenoma and by Werther as tricho-epithelioma papulosum. These tumours have been recently made the subject of a special study by Mr. J. E. R. McDonagh in a paper on the Pathology of the Skin from the Eyelids and Naso-Facial Grooves.[4] These small growths on the lower eyelid are of very common occurrence, and when small and few in number generally remain unnoticed. They are to be regarded as nævoid structures, and McDonagh considers them reversions to the face glands seen on the eyelids of deer and other animals, "as atavistic of both the lower eyebrows and the specialised glands found in these regions in many of the mammalia." He has shown that they may consist of lanugo-hair follicles, sebaceous glands or sweat glands, or they may be undeveloped or embryonic forms of these structures—that is to say, tricho-epithelioma, sebaceous adenoma, or syringoma. Often two or more of these types may be found in one tumour. McDonagh looks upon rodent ulcer as an embryonic growth belonging to this group of nævi, and suggests that all these various tumours form links in one chain, which has at one end simple lanugo-hair follicles and at the other rodent ulcer.

The cases here reported lend support to the view that rodent ulcer is a "nævoid" growth derived from the basal cell layer of the epidermis and closely related to the benign tricho-epitheliomata, known as epithelioma adenoides cysticum and hidradenoma or tricho-epithelioma of the lower eyelid. Rodent ulcer is a delayed attempt to form hair follicles and sebaceous glands in which the effort does not extend beyond mere proliferation of those cells which at an early age would have become differentiated into these special organs. It is an illustration of the Cohnheim theory of cell-rests.

The fact that ulceration occurs in rodent ulcer and not in the closely allied growths of benign tricho-epitheliomata may be perhaps explained in the following way. The pilo-sebaceous apparatus exhibits three periods of active growth: the first, during intra-uterine life, when these structures are formed; the second at puberty, when there is a renewed growth of hair and of the sebaceous glands; and the third, late in adult life, when, as everyone has observed, there is a tendency for long hairs to appear on the eyebrows, in the nostrils and elsewhere, and in women to growth of hair on the lips and chin.

During the first period defects of development lead to the formation of sebaceous adenoma and hairy moles; during the second period, at puberty, dormant cell-nests in the basal layer are affected by the general stimulus of the pilo-sebaceous system, but these cells have lost their power of complete differentiation, and the effort ends in tricho-epithelioma. Still later in life similar cell-nests are aroused to activity. But at this period they are degenerate and have retained only their power of proliferation and have so little stability that they readily break down, and thus give rise to ulceration. That in multiple benign cystic epithelioma the tumours may be abundant on the scalp, whereas rodent ulcer less often occurs there, may perhaps be explained by the fact that stimulus to active growth of the hair follicles towards late middle age does not extend to the hairy scalp, but rather the reverse.

The eroding effect of rodent ulcer upon underlying tissues can perhaps be explained by the presence of these decadent and therefore harmful cells. Only in this sense is rodent ulcer malignant. It is not malignant in the manner of true cancer, in which the cells break away from the mass and individually invade the body tissues and thereby give rise to metastatic growths—the essential feature of true malignancy.

In conclusion there must be mentioned two facts which might be thought to stand in the way of the acceptance of the view that rodent ulcer is etiologically distinct from the epitheliomatous growths which may occur as sequelæ of keratosis senilis or chronic dermatitis solaris. One is that, exceptionally, one may find prickle cells and cell-nests in typical rodent ulcer, and that in rare instances rodent ulcer may infect glands. But these exceptional occurrences may be readily explained by regarding the rodent ulcer, with its tendency to imperfect repair by scarring, as itself a precancerous condition which may in rare cases in the same way as the scars of lupus vulgaris give rise to epitheliomatous growths.

The second fact is that it is not uncommon to find among the squamous-celled epithelioma of keratosis senilis other growths which are histologically indistinguishable from rodent ulcer, which are indeed basal-cell epitheliomata. But this does not constitute them rodent ulcers, and it may still be claimed that their situation on damaged skin and their mode of origin from the same distinguish them from rodent ulcers, which arise from embryonic cell-rests in certain situations and on skin not previously damaged by inflammation.

Devonshire-place, W.

[4] British Journal of Dermatology, August, 1912, p. 291.

LES AVARIÉS BY BRIEUX.—Owing to the interest evinced in Brieux's *Damaged Goods* the Authors' Producing Society will give three additional performances of the play at the Court Theatre, on Sunday, March 22nd, at 8.30 P.M.; Tuesday, March 31st, at 2.30 P.M.; and Tuesday, April 7th, at 8.30 P.M. At each performance the gallery will be open free of charge to the employees and staffs of various public institutions and business concerns. Particulars of the society and its performances may be obtained from the secretary, Mr. W. B. Forster-Bovill, 4, Duke-street, Adelphi, W.C.

DONATIONS AND BEQUESTS.—Under the will of the late Mr. Ellis Jones, of Brighton and Dublin, reversionary bequests of £1000 each will accrue to the National Society for the Prevention of Cruelty to Children, the Hospital for Incurables, Dublin, Sir Patrick Dun's Hospital, Dublin, the City of Dublin Hospital, the Meath Hospital and County Dublin Dispensary, Dr. Steevens' Hospital, Dublin, the Hospital for Consumption, Newcastle, Co. Wicklow, and the Protestant Home of Rest for the Dying, Dublin.—By the will of the late Mr. William Raven, of Leicester, the testator bequeathed £1000 each to the Leicester Infirmary and to the National Association for the Prevention of Consumption.—The East Suffolk and Ipswich Hospital has received a gift of £1000 for the endowment of a bed from Sir Thomas Tacon, of Eye. Sir Thomas Tacon has been a generous benefactor to Ipswich and the neighbourhood.—Through Sir Alfred Pearce Gould the Middlesex Hospital has received £250 from Sir John Glover.—Under the will of the late Miss Ellen M. Stevens a sum of £500 has been left for the endowment of a hospital in Jerusalem.

OF ARTERIOSCLEROSIS.[1]

BY LEONARD WILLIAMS, M.D. GLASG., M.R.C.P. LOND.,
PHYSICIAN TO THE FRENCH HOSPITAL AND TO THE METROPOLITAN HOSPITAL.

IT is in accordance with an honourable custom that I should begin by thanking the council of this society for the compliment implied in their suggestion that I am worthy to open this important discussion. And this I do most gratefully and whole-heartedly. I suppose it is because I enjoy a highly enviable reputation for being contentious that this distinction is conferred upon me. At any rate, I feel that I must live up to that reputation by immediately picking a quarrel with those who have thus honoured me. So I say at once that I strongly object to the term arteriosclerosis which has been selected as a title for the subject of discussion. It is not only a bastard, but a parvenu, and, like all bastards and parvenus, it is deceitful, obscuring the true and suggesting the false. I propose, therefore, to speak of arterial degeneration as more in consonance with dignity, both etymological and scientific.

Arteries, I need hardly remind you, degenerate in different ways, more or less according to their size, which is only another way of saying according to the relative predominance of the tissues composing their walls. The large arteries, chiefly composed of adventitia, degenerate in one way, the medium-sized, chiefly composed of media, degenerate in another way, and the smaller arteries and arterioles, mainly composed of intima, degenerate in yet another way. It is a question of caste. The dignified and aristocratic aorta adopts one method; the bourgeois arteries adopt another, which apes the aristocratic method; while the proletarian arterioles are content with their own method, which is quite as distinctive, though far less distinguished, than the other two. There are thus three methods of degenerating, highly effectual, usually inexorable, and always incomprehensible. There are three incomprehensibles.

Clinically speaking, the reason why arterial degeneration is so difficult of comprehension is that we do not sufficiently heed the axiom of Hufeland, which bids us to generalise the morbid process and to individualise the malady. For in all medicine there is nothing so feminine, at once so ubiquitous, so elusive and so capricious, as arterial degeneration. Whenever you see her she is wearing a different mask, frolicking under a fresh alias, and giving a new address. When she writes from the capital she calls herself angina or aneurysm, when located in the renal or hepatic suburbs she is addressed as cirrhosis, when residing among the hills and valleys of the cerebral cortex her style and title is hemiplegia or dementia; on the coast, whither she repairs in her declining years, she is known as gangrene, and occasionally and vulgarly as baldness. In all these incarnations to the seeing eye she remains the same, an arterial degeneration, a chameleon, an incomprehensible. So that in reality there are not three incomprehensibles, but one incomprehensible.

It is a very slight overstatement of the case to say that arterial degeneration is the ground factor of all degenerations. Certainly if we take that arch degeneration, old age, towards which we are all being brutally and pitilessly frogmarched, we shall find that the spectre who is lying in wait for us is armed with nothing more formidable than a little calcium and some fibrous tissue. These weapons are harmless enough to look upon, but they accomplish his purpose with unerring precision and relentless certainty. That a man is the age of his arteries is none the less true because it has become a twopenny tag which is prattled by the Philistines in the bridge courts of Babylon. Or, if we pass from the general to the particular, we find that so-called local degenerations, such as those which attack the various columns of the cord, or particular organs such as the liver or the kidneys, are mainly, if not primarily, vascular. The great degenerating influences—namely, syphilis and gout—display an intimate acquaintance with, and peculiar affection for, the blood-vessels, forasmuch as they know that it is through the intermediary of these that their fell purposes are best accomplished.

Now, why do arteries degenerate? As an answer to this all-important question, which holds the very secret of life itself, it does not satisfy me, nor would it satisfy you, to enumerate the mere pathological text-book causes. For when you have enumerated them you have still to explain how and why it is that in some cases such causes are operative and in others not. Nor does it clear the issue to pray in aid Sir William Osler's epigram that some people have been furnished with bad tubing, for that is only another way of saying that the real causes of degeneration are liable to be hereditary. To arrive at any helpful conclusion we must consider not only the invader but the garrison; not only the poison but the antidote. During the last 20 years we have heard much, in my judgment, overmuch, of the invader. Whether he take the form of a bacillus, a coccus, or a spirochæte, he is always represented as a valiant knight, armed cap-à-pie, on whose arrival we are invited to lay down our arms and either repair to the sanatorial tents of Hygeia or to betake us to the murky mountains of mercury.

You have only to consider it for a moment to realise not only the pusillanimity of such a picture but also its destructive unreality. For if all those who were exposed to the attacks of the bacillus were immediately to succumb, London would be a howling wilderness in less than a month: its only inhabitant would be Macaulay's New Zealander, poised on a broken arch of Hungerford Bridge, sketching the ruins of the Royal College of Physicians. Or, if all those who had ever been subjected to the caresses of the pallid spirochæte were to develop locomotor ataxia, one-half the male population would be stamping on perforating ulcers or salaaming to lightning pains.

And if these things do not happen, what is the reason? How is it that every Londoner is not tuberculous? How is it that men who have never known that they had contracted syphilis will produce Wassermann evidence of its existence 30 years after the last possibility of exposure? The only satisfactory solution to such problems resides, as I have already indicated, in the combative powers of the individual. Some there be who are humble and meek and decline the combat. They turn the other lung to the smiter, and are quickly overwhelmed. There are others who take up the glove with alacrity and vigour. You may hear the clank of steel and watch the sparks fly, and you know that such an one will win. There must be some reason to explain why the one should be a minus

[1] The speech with which a discussion was opened before the Chelsea Clinical Society on March 17th, 1914.

quantity and the other, possibly his own brother, a plus quantity. I may be told that it is a question of their respective constitutions. No doubt it is, but that again is meaningless unless we are prepared to explain what constitutes a constitution.

Well, I am going to be bold enough to venture upon such an explanation. The constitution of any given person depends upon the accuracy of his metabolic changes. By accuracy I mean the proper coördination of his intake, his assimilation, and his output. If at the outset he is well endowed with coördinative power, if, as the French say, he is originally well "equilibriumed," then his constitution is good. If, however, there be a piece which does not quite fit the dovetail, whether it be too large or too small, a thought too narrow, or a trace too wide, the other members are strained; and though in favouring conditions the machine may appear to work smoothly enough, the weakness becomes painfully apparent in times of stress. Of these three, intake, assimilation, and output, in the early years, when the constitution is being stereotyped as it were, the assimilation is by far the most important. In later life the importance of this element wanes, and it is the output which becomes paramount. Adequate anabolism in infancy and childhood, energetic katabolism in adult life and advancing years, such are the bulwarks of the constitution.

Time was, and not so very long ago, when our knowledge of matters metabolic was very rudimentary. Tissue change was regarded partly as a nervous phenomenon, but mainly as a dietetic drama, in which a harmless enough creature called uric acid very successfully posed as the villain. To-day we know more, but there is much knowledge still to seek. We know that metabolism is under the direct control of the internal secretory glands. We know that these glands preside over growth and development in infancy and childhood, that they are essential to mental, physical, and reproductive efficiency in adult life, and that they are responsible for the maintenance of katabolic balance in the period of decline. It is therefore no exaggeration to define the constitution of an individual as the resultant of his internal secretions. The greater includes the less, and if this be true of the body as a whole it is conspicuously so of the blood-vessels. The internal secretions, the hormones, are poured straight into the vital fluid which traverses the arteries, nourishing and, peradventure, irritating them in its passage. The quality of this fluid, its constitution, must depend to an incalculable extent upon the tribute which it receives from the ductless glands. And this dependence is not only direct but indirect; for if, owing to a faulty gland, the general metabolism be faulty, the stream contains elements which it ought not to contain, and the conduits become injured thereby.

This, then, is the answer to my self-imposed question as to how it is that in some people the arteries readily degenerate, and in others similarly circumstanced they do so reluctantly, if at all. If the equilibrium of the glands is good, the metabolism is good, the powers of resistance are good, and toxins are brought to naught. The toxins may gather in numbers innumerable to hurl themselves with frantic fervour against the walls of the citadel, but they will do so in vain so long as the glandular defenders work in unison. If the equilibrium of the glands be impaired the metabolism is impaired, the combative power is lowered, and microbes flourish exceedingly; the blood is no longer antiseptic; it has become a circulating bouillon or a stagnating agar-agar in which bacillus and coccus and spirochæte gambol together in the impious harmony of a multiple infection.

This question of the metabolic importance of the ductless glands has a further and a very special application to the question of at any rate two of the recognised forms of arterial degeneration—namely, those which are characterised by a deposit of lime salts. Four of the ductless glands, the ovary, the adrenal, the thymus and the thyroid, are very actively engaged in the metabolism of calcium. It has long been known that osteomalacia was curable by removing the ovaries, showing that the ovaries are vigorously engaged in the excretion of the calcium salts. It now appears that a means equally effective, though less dramatic, of controlling this loss is open to us by the exhibition of suprarenal extract. This shows that the suprarenals cause retention of the calcium salts, and normally antagonise the ovarian activity in this direction. It is believed on good evidence that the main excuse for the existence of the thymus is that it causes retention of the calcium salts while the bony skeleton is being developed. The part played by the thyroid in this matter is rather enigmatic. In the first place there is the well-known fact that a great loss of calcium occurs in Graves's disease; in the second, there is ample evidence to show that the thyroid plays a most important part in fixing the calcium salts in the body during the growing period; and thirdly, there is the fact of the depressed calcium metabolism which is conspicuous not only in myxœdema but in old age. Blair Bell suggests that the calcium salts are differently employed by the organism at three different periods of life. He says: "Until puberty calcium is chiefly employed in building up the skeleton; after this it is used for reproduction; and lastly (and pathologically if the termination of life be pathological), for producing the changes which are associated with senility—namely, the retention of lime salts in the tissues, especially in the arteries." This is an ingenious theory with which in the main I am inclined to agree, though I cannot subscribe to the suggestion that we are meant gradually to be transformed into pillars of chalk, to make our exit crumbling, and grittily to greet the resurrection. That many of us may do so there is, alas, no doubt, but if we are to believe Metchnikoff and his Bulgarian bacilli it is evident that we shall do so through some metabolic fault of our own, and not because the Fates have willed it. The responsibility for that fault I believe to rest with the thyroid gland; not, perhaps, directly, but more probably indirectly, in its capacity of the master gland of the endocrinous system.

For we have to remember that as yet we know very little about the interaction of these internal secretory glands. It is surmised, in all probability correctly, that certain of these glands antagonise certain others, and that some of them reinforce others. Thus when in a given case we administer, say, thyroid extract with success, we cannot be certain that it was thyroid essence that was lacking; it may have been some other gland that was lazy, and our remedy has stimulated it to a resumption of its duties. For the present, however, we are obliged to speak empirically, and assume that if thyroid extract produces the desired result it was inadequacy of the thyroid gland which caused the symptoms. In the present state of our knowledge this practice is pardonable, and even necessary, but it is right that we should from time to time remind ourselves that the practice is but a makeshift. And

this refers more particularly to the thyroid than to any other member of the system, because this gland appears to be the pivot round which the others revolve. It is the master-key which locks one door and unlocks another, according to the necessities of the moment. That is one of the reasons for its being so easily exhausted. The ovaries seem to give it much more trouble than the testicles, for thyroid insufficiency is quite three times as common in woman as it is in man. This may be due to the fact that the testicle appears to be far less active in excreting calcium than the ovary.

That the thyroid presides over, and in a large measure directs, the metabolism of the calcium salts there can be no doubt, but whether it interferes directly through its own secretion, or whether indirectly through the agency of some other gland or glands, it is impossible at present to say. It has been abundantly proved, and anyone may satisfy himself of the fact in any case of rickets, that the thyroid gland is instrumental in fixing the calcium salts in the growing organism. It has not been proved, but I am convinced it is true, that in the case of the adult and declining organism the aid of the thyroid can be invoked to secure the excretion of these salts. I have seen hard and uncompromising tophi completely disappear under the influence of thyroid extract, and I have even persuaded myself that a cord-like radial artery has become more malleable under the same gentle persuasion. By this, however, I must not be understood to be suggesting that calcified arteries can be regenerated or rejuvenated by thyroid extract. Nor am I of those curiously unimaginative people who would seek to rid an aorta of its plaster by exhibiting drugs which in a test-tube can be made to dissolve the salts of lime. When arteries have degenerated their course is run. Even if we could, which we cannot, relieve them of the whole of their burden of lime, it is quite certain that we should do harm rather than good, for a certain amount of calcium in the walls of a worn-out artery is just as surely a preservative element as the calcium in an extinct pulmonary tubercle. The deposit of lime is merely the brand of the degenerative process. It is not the process itself. If there were no calcium wherewith to patch the arterial walls the end would only come more quickly. The degeneration is there; the calcium is only the splint which supports the cripple, without which he would the sooner be undone. The part played by the thyroid would thus seem to be that of a regulator of calcium metabolism. It may promote the retention of the lime salts when these are insufficient, or it may ordain their expulsion when they are present in excess. In order to do this, however, the thyroid must be an effective generalissimo. He may be somnolent, but he must, when roused, be capable of effective interference. Unfortunately, with advancing years this is precisely what he is not. Whether from mere weight of years or from exhaustion in fighting toxins he becomes senile and fails to maintain discipline, with the result that calcium which ought to be excreted is retained and the amount necessary to the preservation of the arterial wall is augmented to the point where the wall is composed mainly, if not entirely, of calcareous matter. Lime has ceased to be a servant; it has become a master. Freed from the control of the exhausted thyroid it becomes a parasite. One day the mortar cracks and breaks, and the tenement falls.

This, then, is what I venture to offer for your consideration. If we would understand the real causes of arterial degeneration we must look deeper than the banal surface causes, such as gout and syphilis, which are not always operative, to the limestone formation which lies beneath. Here we come upon the powers of resistance of the individual, which rest upon his metabolic efficiency. This in its turn is supported and maintained by the vigour and harmony of his ductless glands. When the vigour and harmony of these glands is impaired, by circumstances which may be congenital or acquired, the metabolic efficiency deteriorates and the powers of resistance decline. Toxins now succeed where before they were defeated, and degenerative processes become operative. In the degenerative processes which attack the vascular system the fibrosis and the calcareous deposit are originally conservative measures which proceed to dangerous excess only because of the want of control of the endocrinous glandular system in general, and of its master gland, the thyroid, in particular. Thus in the presence of vascular degeneration we are powerless. When we are appealed to early enough we may do something to defer its arrival, and the degree of that something will depend upon our working knowledge of the physiology and clinical behaviour of the ductless glands. If we can learn to stimulate the efficiency and promote the harmony of these potent metabolisers we may do much. Without such knowledge we are impotent.

But, sooner or later, by one means or another, whether by calcium or fibrosis, or what not, the end must come. Even though a man should live by bread alone, eschew wine, laughter and song, live laborious days and suffer loveless nights, he cannot escape. The moving finger writes, the dreaded spectre waits, and the mourners go about the streets. Such is the conclusion of all degenerations, and the conclusion, most conspicuously, of arterial degeneration. And it brings the conclusion of my contribution—a contribution which has proved nothing, disproved nothing, and suggested little, on a subject of absorbing interest and abiding importance. It reminds me of Omar Khayyám:—

> Myself when young did eagerly frequent
> Doctor and saint and heard great argument
> About it and about, but evermore came out
> By that same door wherein I went.
>
> With them the seeds of wisdom did I sow,
> And with mine own hand laboured it to grow,
> And this was all the harvest that I reaped—
> "You came like water, and like chalk you go."

Harley-street, W.

ETIOLOGY OF ENDEMIC CRETINISM, CONGENITAL GOITRE, AND CONGENITAL PARATHYROID DISEASE:

ABSTRACT OF EXPERIMENTAL RESEARCHES.[1]

BY ROBERT McCARRISON, M.D. R.U.I., M.R.C.P. LOND.,
MAJOR, INDIAN MEDICAL SERVICE; ON DEPUTATION IN CONNEXION WITH THE STUDY OF GOITRE AND CRETINISM IN INDIA.

MY previous researches[2] have led me to believe that the exciting agent or agents of goitre exist in the intestinal tract of sufferers. In the course of experiments, having for their object the identification of such an agent or agents, I have had occasion to feed white rats (1) on the filtrate of an emulsion of goitrous persons' fæces, and (2) on aerobic and on anaerobic cultures of organisms grown from the fæces of goitrous persons. A number of rats were

[1] A detailed report on this research appears in the January number, 1914, of the Indian Journal of Medical Research.

[2] McCarrison, R.: Proceedings of the Royal Society, London, B, 1909, vol. lxxxi., p. 31; B, 1910, vol. lxxxiii., pp. 335–37; 1911–12, B, vol. lxxxiv., pp. 155–66; THE LANCET, 1913, vol. i., pp. 147, 219, 365.

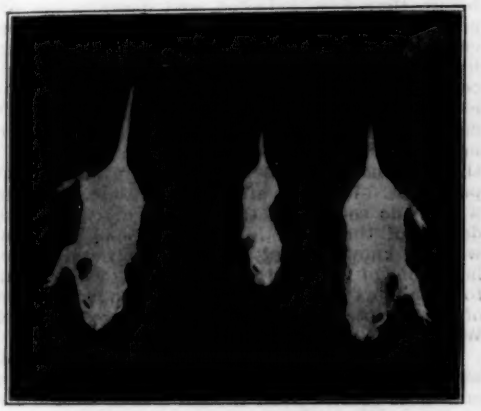
also confined in dirty, unhygienic cages, which were grossly contaminated by their own alvine discharges, with a view to determining the influence of such conditions of life on the development of goitre.

Among the animals treated in these ways were a number of adult females which developed goitre of greater or lesser degrees of intensity. These gave birth during the period of the experiment—March 15th, 1913, to Sept. 15th, 1913—to 146 young. The fathers of these animals were also sufferers from experimentally produced goitre. Of the young rats 63 were removed from the cages for examination. The thyroids of all except 7 were examined one to four days after birth. Of these offspring of goitrous parents 3 were cretins—viz., 4·75 per cent.; 40 had congenital goitre—viz., 63·5 per cent.; 15, out of 47 in which the parathyroids were found, had congenital parathyroid disease—viz., 31·9 per cent.; and 21 were normal—viz., 33·3 per cent.

Details of results.—Of 5 animals born in the filthy, unhygienic cages all showed signs of thyroid hyperplasia. The parathyroids were found in all 5 cases, and were not affected by the goitrigenous influences.

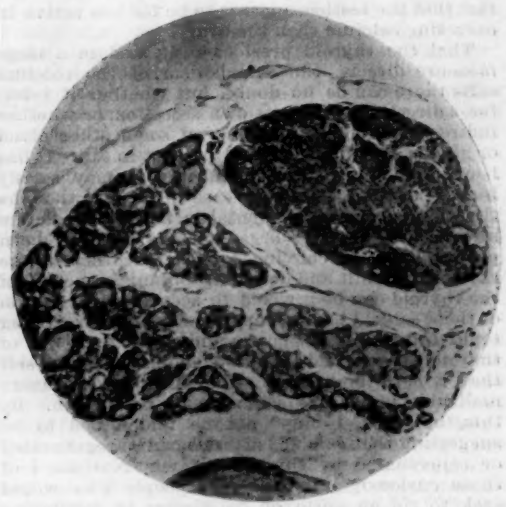
Of 16 animals, born of a mother which consumed the filtrate of an emulsion of goitrous fæces prior to and during pregnancy, 3 were cretins (Fig. 1), 7 had thyroid hyperplasia—in 2 of these there was also partial fibrosis of the thyroid, and 7 were

FIG. 1.



Litter of three young rats, aged 20 days, the offspring of a mother which consumed fæcal filtrate prior to and during pregnancy. The animal in the centre is a cretin.

FIG. 2.

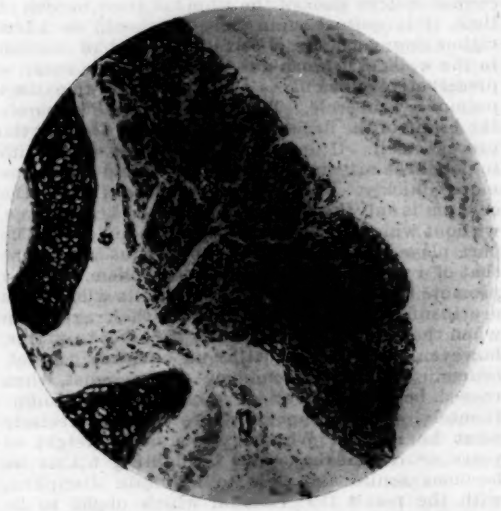


Normal thyroid and parathyroid glands of a 4 day old rat. Magnified 180 diameters.

FIG. 3.

Thyroid and parathyroid glands of a 4 day old rat, showing an area of disease in the thyroid and extensive destruction of the parathyroid gland by hæmorrhage into its substance. Magnified 180 diameters.

FIG. 4.



Thyroid and parathyroid gland of a 4 day old cretin rat, showing almost complete fibrosis. The arrow indicates the situation of the parathyroid gland. Magnified 90 diameters.

normal; while 5, or 38 per cent., had congenital parathyroid disease. The thyro-parathyroid apparatus of only one cretin was examined microscopically, as the mother ate the other two. The clinical features of all three were similar (Fig. 1)—namely, stunted growth, curvature of the spine, low weight, and defective powers of motion. The thyroid and parathyroid glands of the cretin which was examined were completely destroyed, the parenchyma cells being almost wholly replaced by fibroblasts (Fig. 4). There is little doubt, therefore, but that the thyro-parathyroid apparatus of the other two cases were similarly affected.

Of 17 animals, born of mothers which consumed aerobic cultures on agar of fæcal micro-organisms, 7 had normal and 10 had markedly hyperplastic thyroid glands. The 10 animals having disease of the thyroid were born of two mothers which consumed fæcal aerobes prior to *and during* pregnancy. The 7 animals having normal thyroids were born of one of these mothers which consumed fæcal aerobes prior to *but not during* pregnancy. The noxious action of the bacterial cultures was thus demonstrated. The parathyroids were found in 11 out of the 17 cases and were normal in all.

Of 25 animals, born of mothers which consumed fæcal anaerobes, 8 had normal or almost normal thyroids, while in 17 the thyroid gland was markedly hyperplastic. The parathyroids were diseased in 10 out of 18 cases in which they were seen, or 55·5 per cent. The parathyroid disease consisted in marked congestion, hæmorrhages into the gland which destroy large portions of its substance, and in fibrotic changes (Figs. 2 and 3).

Three important facts are to be noted in connexion with these results: 1. That out of 16 animals, born of a goitrous mother which consumed fæcal filtrate prior to and during pregnancy, 3 were born cretins, while the 47 animals born in other cages showed no clinical or pathological signs of this condition. 2. That of 31 animals, born of goitrous mothers which consumed either fæcal anaerobes or the filtrate of a fæcal emulsion, 15 were found to have congenital parathyroid disease. Of these, two-thirds were born of mothers consuming the anaerobic cultures, while one-third were born of a mother consuming a fæcal filtrate which contained the toxic products of these anaerobes. The parathyroids were normal in 16 animals born of goitrous mothers in other cages. 3. Fæcal organisms which grow aerobically on agar, while capable of causing marked hyperplasia of the thyroid gland, do not appear to be capable of producing any ill-effect on the parathyroid glands.

Conclusions.—1. Of the offspring of goitrous parents a small percentage are born cretins, approximately 63 per cent. are born with congenital goitre, 32 per cent. are born with congenital parathyroid disease, and 33 per cent. are born with normal thyroid and parathyroid glands. 2. Cretinism and congenital goitre are due to the action of toxic substances derived from the intestines of the goitrous mother on the fœtal thyro-parathyroid mechanism. Cretinism represents the maximum, and comparatively rare, effect of these toxins; congenital goitre their minimum, and comparatively common, effect. Between these extremes all degrees of thyroid involvement may occur with or without associated swelling of the gland.[3] 3. Congenital parathyroid disease is due to the action on the fœtal gland of the toxic products of organisms, present in the intestine of the goitrous mother, which are capable of growth under anaerobic conditions.[3]

Central Research Institute of India, Kasauli, India.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF QUININE POISONING.

BY LEONARD MYER, F.R.C.S. EDIN.

THIS is a brief account of a case of acute poisoning by quinine with a few remarks thereon. It is the more interesting because so recently as Jan. 17th and Jan. 24th there were reports of poisoning by this drug in THE LANCET and also because my patient was intelligent and able to give some definite story of the subjective symptoms after her recovery.

The patient, aged 20, was three days late with her menstrual period. She procured some quinine sulphate from two chemists, which I have ascertained amounted to 2 drachms; she partly dissolved this in lemon juice and water and drank the mixture at 2.30 P.M. A quarter of an hour after she felt "dizzy as if she were drunk." By 3 P.M. she could hear her friends talking, but could not make out what was said and soon after she was quite unconscious. At 5.30 I reached her after an urgent call. I found her comatose, her pulse was 120 and feeble, her respirations were shallow, occasionally sighing and 20 per minute. Her temperature was 98·6° F. She took no notice even when shouted at. There were obvious signs of vomiting, which had included some undissolved quinine; she was lying on her bed fully dressed. Her pupils were widely dilated. Some hot coffee was quickly prepared, but a rectal injection was prevented by the fact that the bowels had been very freely evacuated under her, likewise her bladder, and I was without adequate assistance. I therefore administered 6 minims of liquor strychninæ hypodermically and a quarter of an hour later when I shouted at her she said, "I cannot see and I don't know what you are saying." Her pulse was then much stronger and I left her with instructions to the husband to call me if he was anxious and that in any case I would come again later. I saw her again at 10.30 P.M. She was sleeping and very drowsy. I roused her by shouting. Her pupils were still widely dilated. She was unable to perceive a very strong incandescent gas light in the room, she also complained of "buzzing" in her ears. I afterwards learnt that about this time she felt "flashes of light and sound," that her feet felt cold and that they wanted to move but could not do so. The coldness spread upwards and before it reached her arms, she could move her legs. Eventually, about 6 A.M. the next day, she "could feel the parts getting well," and on being asked by her husband if she could see she stared at the strong light for five minutes before she was able to make anything out and the first thing was the clock by the bedside which "only gradually took shape." It was 24 hours more before she could see well and before

[3] Proceedings of the Royal Society of Medicine (Medical Section), 1908, vol. ii., pp. 1–31; THE LANCET, Oct. 31st, 1908, p. 1275.

the buzzing ceased. She is quite well now, and needless to say her period has not appeared.

The books describe the result of a big dose of quinine and also of chronic poisoning "cinchonism." The only description of a case like mine was of the Orientals in THE LANCET of Jan. 17th (p. 174), and there the subjective symptoms are not related. Nor is any antidote stated or recommended in the books. Had I been called earlier—i.e., before coma had set in and before vomiting had taken place—the treatment would have been 30 grains of ammonium carbonate in water to precipitate the unabsorbed quinine, as an emetic and alternatively as a stimulant. Failing vomiting by this means the stomach tube and bicarbonate of soda would be indicated. In this case vomiting had occurred and it was reasonable to suppose that in the three hours which had elapsed the remainder of the "poison" had been absorbed.

The quinine was taken under the false impression that it was an emmenagogue and in the cases referred to it was taken in large doses by accident.

Cambridge-circus, W.

A CASE OF APPENDICITIS WITH SEVERAL POINTS OF INTEREST.

BY H. F. G. NOYES, M.B., B.C. CANTAB., M.R.C.S. ENG., L.R.C.P. LOND.

ON Jan. 2nd, in answer to a wire, I met at Worthing station the patient, a man, aged 32, on a visit to England from Australia. The history of his illness is as follows. At an afternoon pantomime performance on Dec. 31st he was seized with violent abdominal pain, which necessitated his leaving the theatre and taking a cab to a hotel. He was seen soon after by a medical man, who gave him a hypodermic injection of morphia. His temperature was 101·4° F., and pulse 104. Later in the evening he vomited. On the next day his temperature had dropped to normal and his pulse was 76. An ounce of castor oil was given, and his bowels were moved several times. The medical attendant was not satisfied with the patient's condition, and on the morning of Jan. 2nd called a surgeon in consultation. An acute perforated appendix was diagnosed and immediate operation was ordered. This the patient refused, and insisted on travelling by the first train to Worthing. A nurse was sent with him to administer brandy should the pulse become weak on the journey.

On arrival in Worthing the patient was very collapsed. The pulse was 120 and thready in character. He was conveyed to a nursing home and consented to an immediate operation. The abdomen was as "hard as a board" and acutely tender, especially in the right iliac fossa and hypogastrium. After opening the abdomen the appendix was found to run downwards into the pelvis. It was 6½ inches in length, there was a kink about 1 inch from the cæcum, and the distal end was bulbous, gangrenous, and perforated, the aperture being about the diameter of a lead pencil. The tissues were in a very friable condition, and merely the bare removal of the appendix was attempted. The cavity where the appendix lay was swabbed out, and a large soft drainage-tube left in running down into the pelvis.

The patient stood the operation remarkably well, and as soon as he had come round from the anæsthetic was placed in Fowler's position. During the next three days—i.e., Jan. 3rd, 4th, and 5th—the patient vomited small quantities of bile, and in response to calomel by mouth and turpentine enemata passed a fair quantity of flatus. The pulse varied between 70 and 90, and was fairly full in character. The abdomen became gradually more and more distended in the epigastrium and hypochondria, the liver dulness was displaced upwards, and the "coin-sound" was elicited over an area which corresponded to an enormously dilated stomach. On the fourth day after operation considerably over a quart of fæcal-smelling vomit was brought up. The patient was very collapsed afterwards, and his pulse became thready and about 130, but later in the evening he felt better and was less distended. This fæcal vomiting occurred twice every 24 hours, and continued for eight days. After the vomiting the patient always felt relieved, and the epigastric distension became temporarily less. Meanwhile nourishment was administered by means of nutrient enemata.

I met Mr. W. H. Battle in consultation on Jan. 4th and 9th, and am much indebted to him for valuable advice on the case. He recommended lavage of the stomach. This I did once, but the patient was very collapsed afterwards, and asked that he should be allowed to wash out his own stomach by the natural method of vomiting. He was provided twice daily with a quart of normal saline; this he drank at one draught and ejected immediately afterwards mixed with the fæcal contents of his stomach. By this means the vomit became gradually less offensive and smaller in quantity, until Jan. 14th, when he was unable to return the saline. From this day his condition rapidly improved and he began to take food by the mouth. The abdominal distension quickly disappeared and his recovery was uneventful except for a superficial stitch abscess in the abdominal incision.

Worthing.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

Gastro-jejunostomy.

A MEETING of this section was held on March 10th, Mr. G. H. MAKINS, the President, being in the chair.

Mr. HERBERT J. PATERSON read a paper on Gastro-jejunostomy and the Principles which should Determine its Application. He said that during the past 15 years there had been a great improvement in the results of gastro-jejunostomy, both immediate and remote. This improvement had been attributed largely to the adoption of the "short-loop" operation. He suggested the possibility that this improvement was due, not to the particular method employed, but to a general advance in surgical technique. He pointed out that a gastro-jejunostomy opening should be as near to the pylorus as possible. This was anatomically impossible in the posterior "short-loop" operation. Therefore, the posterior "short-loop" operation was unsound physiologically, but anatomically good; the anterior operation was good physiologically, but anatomically bad. He was inclined to think that on the whole the remote results of the anterior operation were rather better than the remote results of the posterior operation. Mr. Paterson pointed out some of the mechanical defects which might prevent the patient gaining complete relief, but insisted that the chief cause of failure after gastro-jejunostomy was its performance without proper indication. He gave in detail the reasons for the views which he had been advocating for years, that gastro-jejunostomy was a physiological and not a drainage operation. It was difficult by any mechanical

explanation to explain the beneficial effects of gastro-jejunostomy. How then did it act? He stated that the presence of bile and pancreatic juice in the gastric contents was a constant feature after gastro-jejunostomy. The proof of this was the constant increase in mineral chlorides in the gastric contents after gastro-jejunostomy. This increase was not due to increased activity of the gastric secretion, and so must be due to chlorides added from without—i.e., through the anastomosis, because (1) the total chlorides of the gastric contents were diminished; (2) undoing a gastro-jejunostomy diminished once more the amount of mineral chlorides; (3) if an entero-anastomosis was performed the increase in the mineral chlorides did not occur; (4) in cases in which there was marked excess of bile in the gastric contents there was a marked excess of mineral chlorides; and (5) as a rule the increase in mineral chlorides did not follow operations other than gastro-jejunostomy. Mr. Paterson concluded that the average amount of bile which regurgitated into the stomach was between 5 and 10 per cent. He discussed the effect of the different types of operation in the regurgitation of bile, and concluded that the type of operation performed was of less importance than the manner in which it was performed. The reasons for the beneficial effects of gastro-jejunostomy and the indications for its performance were discussed, and in conclusion the following four practical conclusions were stated: 1. That the type of gastro-jejunostomy employed was of less importance than the manner in which it was performed. 2. That occlusion of the pylorus was an unnecessary complication of gastro-jejunostomy and was based on erroneous pathology. 3. That if gastro-jejunostomy was a physiological operation, its use for the treatment of gastric hæmorrhage was correct and explicable. 4. That if gastro-jejunostomy was a physiological operation, then it was as efficient a treatment for ulcers of the body of the stomach as for ulcers near the pylorus; in other words, gastro-jejunostomy was preferable to excision.

Sir FREDERIC EVE thought that all surgeons would agree that gastro-enterostomy was a physiological operation, and said that he had been in the habit of teaching that the good results which followed it were due to the regurgitation of bile and its neutralisation of the gastric contents. He agreed almost entirely with Mr. Paterson's main conclusions. The stoma should be placed near the pylorus. He had found that cases of duodenal ulcer did as well without as with occlusion of the pylorus. He agreed that excellent results followed gastro-enterostomy for an ulcer in the body of the stomach, and also that excision of the ulcer was unnecessary. Cancerous transformation of the simple ulcer was exceedingly rare.

Dr. A. F. HERTZ said that by the use of X rays he had come to the conclusion that the operation acted almost entirely mechanically. If its effect was merely to render the gastric contents alkaline, could this not be obtained more readily by giving alkalis? A single examination of the contents one hour after a test meal was not sufficient evidence, and should be repeated at frequent intervals. The diminution in the total acidity could be easily explained on the supposition of drainage, as the products of digestion were not retained so long in the stomach, and these products formed the stimulus for the secretion of the gastric juice. He had seen many cases of gastro-enterostomy for gastric ulcer where the patient had not been benefited by it. If the operation was a physiological one, how were its good effects in duodenal ulceration explained, and how were they explained in those cases where entero-anastomosis was performed as well? Gastrostaxis benefited so much by medical means alone and often did so badly after gastro-enterostomy that he thought it was not justifiable for that condition.

Mr. J. F. DOBSON said that 50 per cent. of the cases in which a gastric ulcer had been excised recurred, and recorded two cases in which the recurrence had taken place at the site of the excision and had led to perforation. He thought that the results of excision of an ulcer on the lesser curvature were so bad that the operation should be discontinued. If gastro-enterostomy combined with excision were employed a high mortality was to be expected. The only ulcers suitable for excision were those situated on the anterior wall of the stomach and which were easily accessible.

The PRESIDENT said that the cases in which it could be said most certainly that the operation would be a success were those in which pyloric obstruction was present. This suggested that the mechanical factor was important. He still held that excision of a gastric ulcer was good practice, and his results had been most satisfactory. He thought that during the examination of malignant ulcers one found clear evidence that they were sometimes grafted on simple ulceration. Gastro-enterostomy did not prevent gastric ulcers from forming, and he had experience of cases where fresh ones developed after the operation.

SECTION OF THE HISTORY OF MEDICINE.

Exhibition of Objects of Interest.—Art and Epigram regarding Science and Medicine in Relation to Death.—Healing Wells and Waters, with a Suggestion as to the Origin of the Votive Offering.—Some Physiological Phantasies of Third Century Repute.—A Relic of the King's Evil.

A MEETING of this section was held on March 4th, Sir WILLIAM OSLER, the President, being in the chair.

Dr. Haldin D. Davis and Mr. Harold S. Gettings were elected members.

Mr. WILLIAM BUCKLER and Professor RICHARD CATON exhibited (1) a find of Surgical Instruments from Colophon in Asia Minor; and (2) a collection of Greek and Roman Surgical Instruments made by the late Dr. John Stewart Milne, of Hartlepool.

Dr. F. PARKES WEBER read a paper upon Art and Epigram regarding Science and Medicine in Relation to Death. He referred to typical epigrams and works of art illustrating the various ways in which the idea of death might be related to medicine and the allied sciences. Many of the objects to which attention was drawn related to sanitation and the past want of hygienic methods, as well as to the prevention of unnecessary death. A considerable portion of the paper dealt with satirical epigrams and poetry, as well as with the caricature in art of the work of physicians and surgeons.

Dr. DAN MCKENZIE read a paper on Healing Wells and Waters, with a Suggestion as to the Origin of the Votive Offering. He said that healing wells, like all other primitive therapeutic methods, owed their reputation to qualities other than medicinal, although some physical or chemical peculiarity might be the origin of their reputed healing power. Although the classification into mystical, rational, and combined therapeutic methods was the more natural, that into magical, religious, and physical would be used for the sake of convenience. Magical water cures.—Magical laving was used for skin and eye diseases, as in the cure of Naaman's leprosy and in many other instances in more modern times. Another variety of this was the transference cure to water. Religious water cures.—The term "religious" was used in the anthropological sense. Polytheism was common in regard to wells and waters, and the spirit was credited with the curing virtues. Well cures of this class were widely distributed in space and time, antedating the rise of the world religions, and continuing into them. Zem-zem, at Mecca, the Asklepian holy wells in Greece and Rome, and the Pool of Bethesda at Jerusalem were instances. The water-spirit was closely associated with the genesis of life in primitive thought. The truth of this statement was evident in the facts that children's diseases, sterility in women, and paralysis were cured at wells, and that there was a large collection of myths and legends having their basis upon some such idea. Probably the idea was linked on to the fact of the life of the fœtus in liquor amnii. "Rag wells" and votive offerings.—A common practice was for the patient to leave a rag of clothing attached to a tree near the well, or to throw a pin into the water. Was this a votive offering? Votive offerings were of two kinds—namely, those suggested by gratitude or with the idea of payment, and those in which no evidence of the gratitude motive could be perceived. Rags and pins at wells were of the latter class, as were representations of diseased parts, &c., left at shrines. This was fundamentally a magical custom, dependent upon the expectation that the deity's protection of the rag, &c., would also extend to the patient during his absence; the custom was an instance of "telepathic" magic and was related to the wearing of charms and amulets. Physical water-cures.—This class contained a small number of more or less rational cures. But first of all,

mystical cures were discussed. Of these latter, the most interesting were the shock treatment of disease, especially of insanity and rabies, by water. Among the rational cures might be mentioned the cold and vapour baths practised by the American Indian, by native Australians, and in Russia.

Mr. B. GLANVILL CORNEY read a paper on Some Physiological Phantasies of Third Century Repute. After pointing out that exact anatomical knowledge was a necessary possession before physiological functions could be intelligently studied and discerned, Mr. Corney observed that empirical lore accumulated very slowly, and by chance rather than design. So that centuries might well have elapsed after anatomy began to be practised at Alexandria as a succedaneum to the acquirement of surgical and medical skill before physiology joined hands with it. He therefore claimed justification for describing as phantasies some beliefs in the realm of physiological phenomena enumerated by Pliny, and reiterated in the third century A.D. by Solinus, from whose "excellent and pleasant worke" the "*Polyhistor*, contayning the noble actions of humaine creatures, the secretes and providence of nature," &c., he quoted passages "translated out of Latine into Englishe by Arthur Goldinge, Gent., London, 1587." This book by Solinus was at one time known as "Collectanea Rerum Memorabilium," and was one of the first classics that appeared in print. It was primarily a cosmographical sketch, containing, besides its descriptions of lands and seas, a brief historical outline about the city of Rome, and notices of various peoples, their cults, rites, and customs, together with distinctly marvellous accounts of animals, plants, and minerals. Sentences were copied wholesale from Pliny's Natural History; some also from Pomponius Mela, of whose "De Situ Orbis" Pliny himself made considerable use; and Mr. Corney was inclined to regard Solinus, if he might be judged by this one work which had come down from him, as little more than a literary hack. The passages quoted in the paper bear upon gestation, parturition, and development, and not the least merit of Golding's translation is its extraordinary accuracy in spite of the quaintness of his language and the solemn air of truth with which he invests the most extravagant absurdities. In the remarks read, Solinus touches on the age limit of fecundity, both in man and woman, and cites the cases of Masinissa and Cato, who became fathers when "ful fourscore yeare old." He mentions cases of twins conceived separately, "who béeing carryed both in one burthen, had notwithstanding lyke distaunce of time betwéene their birthes, as there was distaunce betwéene heir begetting"; and refers to some of the signs and sufferings of pregnancy and phases in fœtal development, and the different comportment of the sexes in utero. "It is againste nature for the byrthe to come foorth with his féete forward," says Solinus; "and, therefore, as Children hardly borne, they are called in Latine *Agrippa*," and "are for the moste parte unfortunate and short lived." After alluding to "Cornelia the mother of the Gracchuses," as Golding calls them, as an example of imperforate hymen, Solinus adventures the popular interpretation of the name "Cæsar," "because he was the firste of the Romaines that was ript out of his mother's wombe"; and explains that the name "Vopiscus" is applied to the survivor of twins, one of whom has perished through being born prematurely. After alluding to some vagaries of dentition, he observes that Zoroaster was the only man who ever "laughed the same howre he was borne"—which brought him excellent luck—and that Heraclitus and Diogenes the cynic, "did never abate one whittle of theyre stiffe stomackes, but treading under foote the fformes of all casualties, continued unchangeable in one purpose, againste all gréefes and miseries." Quoting one or two more negative peculiarities, such as Antonia's (the wife of Drusis) who "didde never spitte," and Pomponius, the poet who "did never rasp," Solinus goes on to mention prodigies of strength and strange abnormalities of muscular and bony development, concluding with the audacious story about Milo, of Croton, who "with the stroke of his bare fist, felled an Oxe starke dead, and eate him upp himselfe alone the same day that he killed him, without overcharging his stomacke." The first printed edition of the *Polyhistor* emanated from the Jansen press at Venice, in 1473. The latest edition of his text, and undoubtedly the best, is Mommsen's, published in 1864. His principal commentator before Mommsen was the Abbé Claude, of Salmaise, who devoted a thick folio in mediæval Latin to his *Exercitationes* on Solinus, which was printed at Paris in 1629. Several translations of the *Polyhistor* have been published besides Golding's: one in Italian, one or more in German, and one in French. Of these the last mentioned (in 1847) is the least trustworthy. The paper was accompanied by copious explanatory notes and a short bibliographic list of references.

Dr. FIELDING H. GARRISON contributed an account of a Relic of the King's Evil, acquired in 1891 by the Surgeon-General's Library at Washington, U.S.A. It consisted of a folio volume of 22 leaves in which were inserted: (1) a gold "touch piece" of James II.: (2) inventories of moneys disbursed for healing medals; (3) registries of the number of persons touched for the "evil" during the reigns of Charles I., Charles II., and Queen Anne; (4) a reprint of the 1789 pamphlet on "The Ceremonies for the Healing"; (5) the title page of Wiseman's Treatise on the King's Evil (1686) with a portion of the text; (6) "The office of consecrating Cramp Rings, 1694"; and (7) copies of the *London Gazette* for 1705 containing notices relative to the Royal Touch.—Dr. RAYMOND CRAWFURD noted that the volume was interesting because it showed that the compiler knew of the existence of a bronze touch piece of Charles I., for the first public announcement of which in the *Numismatic Chronicle*, 1910, they were indebted to Mr. Henry Symonds.—Mr. D'ARCY POWER added a few additional facts.

CLINICAL SECTION.

Exhibition of Clinical Cases.

A MEETING of this section was held on March 13th, Mr. CHARTERS J. SYMONDS, the President, being in the chair.

Mr. HENRY CURTIS showed a case of Primary Squamous Epithelioma of the Exterior of the Left Nostril illustrating the Radical Modern Operation. The patient was a man aged 43. A very large skin flap had been turned up, which allowed removal *en masse* of the glands which were extensively involved.

Dr. HILDRED B. CARLILL showed a case of Spastic Smile with Spasm of the Upper Extremity; (?) Huntington's Chorea. The patient was a woman aged 52. At the age of 16, after extraction of two teeth, the lower jaw "came forward" and speech became indistinct. This had remained. Thirteen years ago, three days after confinement, the right arm commenced to shake. Two years ago the patient was first noticed to be always smiling. She was one of five sisters and had no brothers. The family history was negative as regarded a similar complaint or any nervous disease. The smiling facies was worse under observation and on trying to protrude the tongue. The spasm was controlled at times and ceased during sleep. The tongue was large and constantly moving, but could not be protruded normally. Articulation was very imperfect. Swallowing was normal. The optic discs, fundi, and pupils were unaffected, and the cranial nerves were otherwise normal. Motor system: Gait slow and hesitating; no weakness or ataxia of the lower limbs or of the left upper limb; involuntary contraction of the muscles of the right upper extremity caused a coarse tremor. She had not used her right hand in writing for 13 years, but could perform many movements requiring less accuracy. No mental impairment was present. The sensory system was normal. Reflexes: Arm-jerks exaggerated, the right being greater than the left; knee-jerks exaggerated; ankle-jerks normal; plantar responses flexor; abdominal reflexes not elicited; sphincters normal.

Mr. J. E. H. ROBERTS showed a case of Old-standing Brachial Birth Paralysis with Subluxation of the Shoulder-joint and Anterior Dislocation of the Head of the Radius. It was that of a male patient, aged 17. When he was three days old the right arm was noticed to be paralysed. There was a subspinous dislocation of the head of the humerus and a forward dislocation of the head of the radius. The muscles of the shoulder and upper arm were well developed. The forearm flexors were fairly powerful but the extensors were weak. In the hand the finger-joints were flexed and the metacarpophalangeal joints hyperextended. The thumb was flexed across the palm. The lower part of the forearm and hand was blue and cold. The arm could not be abducted from the side, although the deltoid had recovered. Passive flexion and extension of the elbow were possible through almost the full normal range, but on attempting

active movement the biceps, triceps, and forearm flexors all contracted together, so that no movement occurred. Electrical reactions of the shoulder, arm, and anterior forearm muscles were normal. Those of the posterior forearm were very weak but normal. The same was true of the median interossei. The ulnar interossei showed partial reaction of degeneration.

Dr. F. SYLVAN showed a case of Pulmonary Tuberculosis, commencing gymnastic treatment. The patient was a man aged 27. During several months he did not feel well, and in July, 1913, his lungs were declared to be affected. In September he went to a sanatorium and stayed 10 weeks. He then started work, but the next day he had a hæmorrhage and ceased work. A few days later slight hæmorrhage occurred again on two occasions. At the beginning of his stay in the sanatorium his temperature was frequently 100·2° F., but after six weeks it was normal. He now coughed most in the morning and expectorated a fair amount. There were slight dulness on percussion and crepitations over both apices. His vital capacity was 2700 c.c.; inspiratory power, 28 mm. Hg.

Dr. HECTOR W. G. MACKENZIE showed a case of Multiple Carcinomata of Bone. The patient was a married woman aged 45. For nine years she had suffered from "kidney trouble." There had been blood in the urine from time to time and intermittent pain in the right loin. Her medical attendant, suspecting stone in the kidney, sent her to a hospital, where she was admitted. Dr. Mackenzie had been asked to see her on account of swelling and stiffness of both shoulders, and she was then transferred to his care in February last. She began to suffer pain in the right shoulder in March, 1913. The pain gradually got worse and prevented movement in July, 1913. She was uncertain when the left shoulder became affected, but she thought it became so soon after the right. The right elbow also became painful and stiff. The shoulders gradually became swollen and the arms and hands became weak. On examination both shoulders were very prominent in front. The posterior deltoid regions on both sides were swollen, tense, and very tender. No movement could be obtained. There was pulsation over the swellings, which was expansile in character. On the right side the swelling appeared to be most pronounced over the upper end of the humerus. On the left side the swelling was greatest posteriorly in the situation of the scapula. There were stiffness and tenderness at the right elbow-joint. There was much wasting of the muscles of the right arm and forearm, and the only movements possible were those of pronation and supination and the hand movements. On the left side wasting was not so obvious and the elbow could be flexed and extended. A systolic murmur was audible over the swelling on both sides. Loss of flesh had not been observed by the patient until recently. Her face was of a yellowish tint, and there was a pink flush on her cheeks. The spleen was palpable below the costal margin, and the edge of the liver could be felt 2 inches below the costal margin. An X ray examination by Dr. A. Reid showed that the upper part of the right humerus was expanded into a large rounded tumour. On the left side a large tumour replaced a considerable part of the scapula, the humerus being unaffected. The lower end of the right humerus was also the seat of some nodules of growth. Nothing abnormal was to be seen in the kidney area. The urine was tested for Bence Jones protein with negative results. Blood examination: The erythrocytes numbered 4,281,250 per cubic millimetre, and the leucocytes 9280. The hæmoglobin was 85 per cent. of normal, and the colour index was 1. The differential count of leucocytes was as follows: polymorphonuclear neutrophiles, 46 per cent.; polymorphonuclear eosinophiles, 2·3 per cent.; small lymphocytes, 44·7 per cent.; large lymphocytes, 4·3 per cent.; and large hyaline cells, 2·7 per cent. The distribution of the bone tumours pointed to their being secondary deposits. The most likely seat of the primary disease was the right kidney. If the latter was the seat of growth it must have supervened on an old lesion, probably renal calculus.

Mr. H. W. CARSON showed a case of Malignant Disease of the Male Breast. The patient was a man, aged 65, who had had a growth in the right breast for between seven and eight years, and believed that it followed an injury ten years ago. His work did not cause traumatism to the breast. The condition was one of slow growing scirrhus, forming a tumour centrally placed in the tissue of the right mammary gland, implicating the skin and adherent to the sheath of the pectoralis major. Enlarged glands could be felt in the axilla and posterior triangle of the neck and there was a doubtful nodule in the liver. The case was shown as an example of a somewhat rare condition, but Mr. Carson feared it was inoperable.

Mr. E. M. CORNER showed a case of Fractured Spine of the Tibia. The patient was a young man who early in last December had had his leg hurt while playing football. A heavy man fell on the outer side of the knee of the extended limb. Shortly after the accident the knee became swollen and there was considerable extra-articular swelling of the joint. Abduction of the knee was easy and the tibia could be separated by half an inch from the femur. Flexion of the joint was impossible. On examination all movements of the joint were fair, but flexion was much restricted and painful. The signs and symptoms were such that two surgeons thought that there could be no serious injury in the joint. A skiagram showed separation of the spine of the tibia.

Mr. V. ZACHARY COPE showed a case of Extradural Hæmorrhage causing Slight Aphasia from Pressure over Broca's Convolution. The patient, a man, aged 29, was struck over the left temple in August, 1913. He was unconscious for a time, and had not regained full consciousness when admitted to hospital next day. On admission his pulse was 50 and his respirations 20; he was drowsy, but could be roused. The knee-jerks were slightly exaggerated, and the pupils were equal and reacted normally. There were slight swelling and bruising over the site of injury. In the absence of localising symptoms no operation was considered advisable. For some days the condition improved, so that he could answer questions sensibly, but it was noticeable that after giving a sensible answer his speech would tail off into a jumble of disconnected nonsense. Nine days after admission his right pupil became larger than the left and early optic neuritis was found. The pulse still remained 50 to the minute. Operation was undertaken ten days later. The skull was trephined over the anterior branch of the left middle meningeal artery. An ounce or more of old blood-clot was found outside the dura, extending down to the skull base, and two depressed pieces of bone were removed. The dura was not opened. No drainage was employed. Recovery was very rapid after the operation. The speech was soon quite perfect and the pulse normal. He was discharged from hospital just over a fortnight after the operation.

Mr. COPE also showed a girl, aged 14, who had suffered from Sensory Aphasia following an injury, and had recovered after removal of a clot from beneath the dura over the angular gyrus and upper part of the temporo-sphenoidal lobe.

Mr. W. H. BATTLE showed a case of Old-standing Fracture-dislocation of the Cervical Spine. The man, aged 38, was admitted in February, 1914. About four months before admission he fell off his van on to his head, the wheel of the van passing over his left leg. He stayed in bed for two days after the accident, but did not notice anything amiss till about a week later, when he discovered that he was losing power in his hands, and that he often could not extend his fingers after clenching his fist without the help of the other hand. For about one month before admission the patient observed that his legs were gradually becoming weaker, and that he had considerable difficulty in walking. He had had no pain of any description, and there had been no difficulty in controlling the sphincters. He had noticed that his head had become more and more protruded since the accident. When shown his mental condition was normal. The right pupil was larger than the left. X rays showed dislocation of the fifth and sixth cervical vertebræ. Slight general weakness and some spasticity of the muscles of the trunk were present. The tone of the legs was much increased, and the spasticity was out of all proportion to the weakness. There was incomplete loss of appreciation of a pin-prick over the eighth cervical segment, with complete loss below it.

Mr. T. H. KELLOCK showed a case of Deformity of the Long Bones (Osteogenesis Imperfecta). The patient was a boy, aged 4, who had been sent to hospital on account of lameness and bending of the right thigh. He was one of twins, there being nine other children, all healthy, except a sister who had been in splints for knock-knee. The mother and father were both alive and healthy. The children were

born at full term; they were breast-fed for three months, subsequently artificially. The twin sister was quite well and had no deformity of bones. For three years the child seemed quite well and walked well. A year ago he fell down stairs and "bent" his right leg above the knee; pain and swelling of the part resulted, but he was able to walk for a few days after the accident. Three months afterwards it was put on a splint, which had been used ever since—for about seven months. The child now had the appearance of suffering from rickety deformities of the bones, the skull was large and the frontal eminences were prominent; the chest was flattened from side to side, and there was well-marked "rickety rosary." Both femora, the right especially, showed antero-posterior curvatures at the junction of middle and lower thirds. The tibiæ were flattened from side to side and curved forwards towards the lower ends. Thickening could be seen and felt at most of the epiphyseal junctions. Skiagrams showed marked attenuation of the long bones and the bones of the tarsus; there was very little compact tissue, and the medullary tissue was almost "spider-web"-like in appearance. There was no obvious fracture at the seat of the bending in the right femur. The child's general condition was good and he had good teeth.

Dr. R. O. MOON showed a case of Aneurysm of the Ascending Aorta. The patient's family history was unimportant. There was no history of any rheumatic affection. A miscarriage occurred at the age of 25. About seven years ago she realised that her heart was diseased in some way; she suffered from palpitation, shortness of breath, choking sensations, and occasional pains in the left mid-axillary line. About ten months ago she noticed a swelling in the upper part of the chest, with throbbing sensations and pain over it. There was a bulging of the three upper right ribs at their sternal ends, extending for 9 cm. from the mid-line. Over the swelling there was a well-marked systolic thrill and there were harsh systolic and diastolic murmurs. The apex beat was diffuse in the seventh space and displaced outwards. To-and-fro murmurs were heard all over the præcordial area. The pulses were equal, markedly collapsing, and their rate 100. The blood pressure was equal to 172 mm. Hg. The pupils were equal, and there was neither dysphagia nor tracheal tugging. The Wassermann reaction was positive.

Mr. P. P. COLE showed a specimen from a case of Tumour of the Thigh. The sections exhibited concerned a case of tumour of the thigh which was shown at the November meeting of this section. The tumour developed after a fracture of the femur, but the history suggested that an endosteal tumour was present before fracture occurred. It was suggested that radium might be tried with advantage. Accordingly, 200 mg. were embedded in the tumour and allowed to remain for 24 hours. The constitutional effect was considerable, and the patient's general condition was seriously impaired. Radium was applied externally during the course of two months. A sinus persisted at the site of introduction, and the tumour became slowly but steadily larger. The patient was reluctant to lose his leg, but eventually consented. Amputation through the hip-joint was performed in January last. Spinal anæsthesia was used to guard against shock, and because the patient was the subject of marked aortic regurgitation. The type of operation was an anterior racquet, only just sufficient of the thigh being left to furnish flaps. There was no shock, and recovery had been uninterrupted. The sections were of the tumour itself and of an enlarged gland removed from the inguinal region, and showed microscopically the structure of a myxochondroma.

Mr. COPE contributed a short paper on Traumatic Sensory Aphasia.

SECTIONS OF NEUROLOGY, OPHTHALMOLOGY, AND OTOLOGY.

Resumed Discussion on Nystagmus.[1]

THE third combined meeting of these sections was held on March 11th to conclude the debate on Nystagmus. The chair was occupied by Mr. RICHARD LAKE, the President of the Section of Otology.

Dr. WILFRED HARRIS said that nystagmus should not be assumed to exist unless the lateral movements were persistent and rhythmical during the test; the observer should also determine whether the nystagmus was a symptom of cerebro-spinal disease or was of ocular origin. Cases which did not belong to either of these groups, such as head-nodding, should also be recognised, and in the last-named form usually only one eye was affected. If in early infancy macular development was interfered with, such as by anterior polar cataract, so that there was not a clear image on the fovea, the cerebral coördination was not brought into play to keep the eye rigid; hence there were constant oscillatory movements. Ocular nystagmus might be said to be due to disease of the afferent path concerned with the reflex for fixation of the eyeballs. Occasionally in adults nystagmus might be due to defect of vision, and it might be uniocular. In nystagmus of central origin the symptom was brought out, especially on deviation of the eyes laterally or upwards, and was not apparent on fixation in the median line. Most intense nystagmus was occasionally set up by a tumour of the cerebrum, especially if the optic thalamus were involved by it. He mentioned cases of this, and recalled that Gowers made the same observation. The value of nystagmus for cerebral localisation was not great, but it was usually suggestive of cerebellar disease. The most intense nystagmus might be an accompaniment of subtentorial disease.

Dr. A. ABRAHAMS explained the *modus operandi* followed by him in obtaining kinematographic records of nystagmoid movements. He said the human eye was a very capable micrometer and was capable of appreciating a movement which the camera did not reveal. Some of the movements photographed were less than one-tenth of a millimetre, and pictures were taken at the rate of 25 to 30 per second. Miners' nystagmus was too fine to photograph.

Mr. J. F. O'MALLEY dealt with two great types of nystagmus, ocular and vestibular; and exhibited tables of useful sub-classifications, with suggestions as to etiology.

Mr. HAROLD B. GRIMSDALE spoke of his experiences with cases at the Royal Normal College for the Blind. Half the cases of nystagmus there had had ophthalmia neonatorum; and there were a large number of cases in which the nystagmus followed an accident to the cornea. Up to the age of 5 any severe disturbance of the cornea seemed to be followed by nystagmus. But the blind principal, who lost his sight at the age of 4 following measles, showed no nystagmus. It was said that nystagmus never occurred in blind children, but he quoted a case to the contrary; the patient, a child, later recovered a fair degree of vision, and the presence of the nystagmus led him to hope that that might be so.

Mr. A. B. CRIDLAND dealt with the question of the restriction of the fields of vision for red, blue, and white in subjects of miners' nystagmus; this could be observed in the early stage and the improving stage of the condition. He possessed some 70 charts to illustrate the fact that in practically all cases contraction existed for red, blue, and white, but it was of the concentric type, and more or less symmetrical in shape. Occasionally there was an interlacing of the three fields. The restriction might persist even months after both subjective and objective signs had disappeared. Most of the cases showed blepharospasm, neck twitching, &c. The changes in the fields were akin to those seen in functional disease, and that lent support to the view that miners' nystagmus was a nervous condition.

Mr. ANGUS MACNAB spoke of the relative importance of the rods and cones in different degrees of illumination. With light reduction the rods became the more important until the threshold of stimulation of the cones was passed. In the macula there were only cones, no rods, and after an eye had been subjected to low illumination, it gradually became adapted to its environment, and passed into a condition of dark adaptation. Miners' nystagmus was noticed to be most prevalent where the coal was most absorbent of the little light there was; and the fixation of the subjects was in a state of very unstable equilibrium. The concentration of the miner on his blows also helped, in these circumstances, to produce the neurosis. He thought the influence of refractive error in the causation of nystagmus must be very small, though errors of muscle balance might have some weight. It would be interesting to ascertain what proportion of affected miners suffered from heterophoria.

Mr. T. B. LAYTON said there were great differences of opinion as to the value of vestibular nerve tests, including nystagmus, in the diagnosis of nerve diseases. He raised the question

[1] THE LANCET, March 14th, 1914, p. 748.

as to how much of failure to perform correctly coördinate muscle movements was due to withdrawal of cerebral control, and how much to defect of the vestibular nerve. He was convinced that in a certain number of cases vestibular reactions when correlated with evidence obtained from other sources would enable one to clinch a diagnosis, or detect a gross lesion which otherwise would seem equivocal. He thought every neurologist should learn to do these tests, or send their patients to otologists who could do so.

Dr. A. RUGG GUNN spoke of nystagmus as it affects albinos. In diseases of the retina associated with degeneration of the rods there was the converse condition to night-blindness. An eye in that condition looking at the spectrum of sunlight found the red end shorten and disappear, while its broadest portion appeared to move towards the violet end. It occurred to him that if in the albino the cones were found to be functionless, this absence of function in the fixation point was a sufficient cause for the nystagmus, and also, perhaps, for the intense photophobia found. Such a person would be dark-adapted. He described the case of an albino, one of nine observed, in which this was so.

Mr. G. J. JENKINS spoke of labyrinthine nystagmus in its relation to various canals, and Mr. PARSONS asked whether the albino described by Dr. Gunn was colour-blind, because totally colour-blind people showed the characteristics described.

Mr. W. T. HOLMES SPICER, Dr. JAMES TAYLOR, and Mr. SYDNEY SCOTT replied, and the PRESIDENT suggested that perhaps a committee of representatives of the three sections might present definite conclusions from the various points of view.

SECTION OF PSYCHIATRY.

Definition of the Sexual Instinct.

ON March 10th members of the British Psychological Society were guests of this section. The chair was occupied by Sir GEORGE SAVAGE, the President.

Dr. WILLIAM MCDOUGALL read a paper on the Definition of the Sexual Instinct. He was of opinion that the present attitude of both academic and medical psychologists on the nature and rôle of instinct in general, and in particular the instinct of sex, was chaotic; and it was only by coöperation of medical with other psychologists that a right understanding of sex instinct could be hoped for. The great authorities, whose names were familiar to all who were read in the literature, were far from agreed on the matter, while the hesitation shown in accepting hypotheses seemed to argue a lack of understanding of the leading facts. Those who turned to the standard works on psychology for an authoritative statement on the part played by the sex instinct in human life were disappointed. Even William James, who fully recognised the value of human instincts, scarcely touched on that of sex. There was a perpetuation of the error that instinctive action was merely compound reflex action. The erroneous views could be classified into two groups: (1) those which were unduly simple, representing the sex instinct as merely the tendency to respond to certain disagreeable sense-stimuli with movements which abolished the disagreeable and procured pleasurable sensations; and (2) those which ascribed to the sex instinct a variety of mental and bodily processes which originated in other and distinct roots. A prevalent error was to confound the parental with the sex instinct, and this he considered was largely due to the ambiguous employment of the term "love," as well as to certain similarities of behaviour prompted by these instincts, and the biological ends served by them. Some authors also—erroneously, as he contended—considered modesty, jealousy, and masochistic and sadistic tendencies to be components of the sex instinct. The Freudian doctrine comprised several errors. Against the view that the sex instinct arose from the desire for pleasurable gratification was the fact that in some cases the instinct continued after complete castration. He strongly disagreed as to Freud's contention that the sex instinct was normally present in infancy; it appeared to have its earliest beginnings at about the eighth year, and progressed steadily to puberty. Though the sex instinct was admittedly complex, it must not be regarded as comprising two distinct impulses. Though he criticised some of Freud's contentions, he paid a high tribute to his work in the domain of psychology.

A communication from Dr. C. MERCIER was read, in which he re-stated his beliefs as expressed in his work on "Conduct," and drew an illuminating analogy between human instincts and those manifested by the lower animals.

Dr. A. ERNEST JONES wrote pointing out that Freud carefully distinguished between the numerous physical and mental processes which were preparatory, and those which represented the culmination of gratification; he drew a line of difference between processes "for pleasure," and those "in pleasure," the former not being regarded as necessarily sexual. He criticised Dr. McDougall's statement that the grounds of the assumption that the sex instinct was normally active from the earliest years of infancy would not bear examination. He instanced early masturbation, and saw no reason why a line should be drawn and the statement made that before a certain age acts were not sexual, but they were afterwards. The sexual, like all other functions, pursued a tortuous development until adult life. And he saw no necessity to differentiate between the parental and the sex instincts.

Professor W. BROWN pointed out that Freud's ideas were based, not on *a priori* considerations, but on careful psycho-analysis. At first one felt somewhat repelled by Freud's doctrines, but if, as was necessary, one treated his language metaphorically one saw much more clearly. The study of dreams was also very helpful.

Dr. M. D. EDER also defended Freud, and considered that the parental and the sex instincts were closely allied. It was difficult to know exactly at what age the sex instinct commenced, and those who practised psycho-analysis did not agree about it. He thought Dr. McDougall had in his paper looked only backward, and hence ignored the strong aspirative power in man.

Mr. SHAND pointed out how diverse were the meanings attached to the word "instinct." He thought it might be defined as an inherited disposition, excited innately by certain stimuli and invoking innately, in response, certain specific types of behaviour, and he proceeded to elaborate this thesis by observations on the lower animals.

Dr. D. FORSYTH also spoke and Dr. MCDOUGALL replied.

LIVERPOOL MEDICAL INSTITUTION.

Preliminary Report of the Special Committee on Venereal Diseases.—Ambrose Paré: His Work and Times.

AT the clinical evening of this institution held on March 5th, Dr. E. W. HOPE, the President, in the chair, a large number of cases were shown by the members.

At the request of the PRESIDENT, Professor R. J. M. BUCHANAN read a short Preliminary Report of the Special Committee on Venereal Diseases, detailing the work done by the committee up to date.

Dr. C. RONEY SCHOFIELD read a paper on Ambrose Paré, His Work and Times. He said: The progress of medicine was slow from the time of Hippocrates, born 450 B.C., who was our first physician. His work was the medical authority for the next 1500 years. Theology and Medicine were interwoven inextricably, and every doctor came from the ranks of the Church. Quacks abounded. The leading school of medicine in the fourteenth century was at Montpellier. Barber-surgeons were introduced by the physicians, who, being priests, could not shed blood. They were licensed to bleed and do what was now termed minor surgery. Ambrose Paré appeared in the sixteenth century, born at Laval in Mayenne. His last descendant died at Laval on March 6th, 1852—a maiden lady. After surmounting the difficulties that poverty and lack of influence put in his path Paré became a licensed barber-surgeon. He made his reputation in the wars which at that time France was continually engaged in. He was contemporary with Vesalius and Harvey, but lived 13 years after the death of Vesalius and before Harvey was born. Modesty characterised his writings: "I treated him, God cured him," was his favourite phrase. He was responsible for the simplification of treatment of wounds and the successful ligaturing of vessels after amputations. He also introduced podalic version. In 1554 he was admitted a member of the famous college of St. Come. He dedicated his second volume to Henry III. of France and the first to Lord Herbert of Cherbury, in 1579 and 1575 respectively. His dissertation on the humors explanatory of the then elementary

physiology is perhaps the most crude and mistaken exposition in his book, while the advanced surgery—especially his operation for straightening the Pott's curvature described in detail and repeated 400 years later in an identical technique by Mr. Tubby and Mr. Robert Jones—is an interesting proof of his advanced ideas. Paré's credulity as exampied by his relation in all good faith of the most improbable descriptions of mythical animals and their habits is in strange contrast to his clever operations and shrewd conjectures. His unbelief in the existence of a hymen and recognition of the possibility of Cæsarean section are interesting to note. He describes a case of parasitic attachment in detail which he observed in 1530 accompanied by a drawing, which is almost identical with one described and shown in 1888 by Sir J. Bland-Sutton. An interesting statement made by Paré regarding multiple births is that on Jan. 20th, 1296, the wife of Count Verbeglaus had 35 children at a birth.—The paper, which was illustrated by numerous lantern slides, was discussed by the PRESIDENT, Dr. T. R. BRADSHAW, and Dr. H. DRINKWATER.—Dr. SCHOFIELD replied.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Demonstration of Models of the Middle and Inner Ear.—Phenyl-sulphone-phthalein Test of the Renal Function.—Labyrinth Suppuration.—Carcinoma of the Post-cricoid Region.

A MEETING of this society was held on March 4th, Dr. JOHN PLAYFAIR, the President, being in the chair.

A demonstration of Models of the Middle and Inner Ear was given by Mr. J. K. MILNE DICKIE and Mr. J. S. FRASER.

Dr. JOHN D. COMRIE read a note on the Phenyl-sulphone-phthalein Test of the Renal Function. After describing the methods of making the test the author said that in a number of hospital patients suffering from conditions not involving the kidneys he had found the phenyl-sulphone-phthalein excretion to be: first hour, 55 per cent.; second hour, 18 per cent.; and third hour, 4 per cent.; total, 77 per cent. In 18 cases of undoubted parenchymatous degeneration of the kidneys (shown by the presence of albuminuria, casts, œdema, &c.) the average excretion was: first hour, 11·8 per cent.; second hour, 12·1 per cent.; and third hour, 5·9 per cent.; total, 30 per cent. In 4 cases of advanced interstitial nephritis (arterio-sclerotic type) the average amounts were: first hour, 8 per cent.; second hour, 18 per cent.; and third hour, 29 per cent.; total, 55 per cent. In diabetes mellitus a diminution of the amount secreted to 30 or 40 per cent. was constantly found; this was a vital defect of the kidney function apparently, because phenyl-sulphone-phthalein when left in solution in diabetic urine for several days underwent no diminution. In 10 cases of valvular heart disease in young people associated with venous congestion and the presence of albuminuria, the amounts were 32 per cent., 23 per cent., and 9 per cent., giving a total of 64 per cent.; while in 10 cases of long-standing disease in old people the results were only 17 per cent., 12 per cent., and 5 per cent., or a total of 34 per cent. The average of all heart cases unaccompanied apparently by serious kidney involvement was 24 per cent., 18 per cent., and 7 per cent., or a total of 49 per cent. In two cases of advanced parenchymatous disease a very bad prognosis could be drawn from the fact that the three hours' secretion was 3 per cent. in the one case and 1 per cent. in the other. In the former case the patient died in about two weeks; in the latter within 48 hours. Dr. Comrie formulated a rough general rule that in healthy cases the amount for the first hour was at least equal to twice the sum of that for the second and third hours (total 75 per cent. or over); in cardiac cases with poor blood pressure the first hour's quantity equalled the sum of that in the second and that in the third hour (though the total might be reduced to half the normal). In interstitial nephritis the first hour's quantity was about equal to the second, but less than that in the second and third together (total quantity high). In advanced parenchymatous degeneration that secreted in the first hour was less than that in the second (and the total was very low—30 per cent.).

Mr. FRASER communicated a paper on Labyrinth Suppuration, with numerous illustrations with the epidiascope. After a very clear exposition of the development, anatomy, and physiology of the labyrinth and of the various methods of testing the vestibular apparatus, Mr. Fraser discussed the pathology of labyrinthitis. He said that infection of the inner ear occurred once in every 100 cases of purulent otitis media, usually as the result of an acute exacerbation in a chronic case. Labyrinthitis might be circumscribed or diffuse. The circumscribed form might affect only the bony capsule, or it might invade the perilymph space. Diffuse labyrinthitis also occurred in two forms: (1) empyema of the labyrinth, and (2) pan-labyrinthitis in which the bone also was affected. This disease might also be classified according to the causal disease—e.g., scarlatinal, cholesteatomatous, tuberculous, pneumococcic, &c. Fracture of the base of the skull or injury with a pointed instrument, as a knitting needle, might give rise to a traumatic form of labyrinthitis. Lastly, it might be classified according to the route of infection: (1) meningeal, as in cerebro-spinal meningitis (from 15 to 50 per cent. of cases of this disease were followed by deafness); (2) tympanic, as in suppurative otitis media; and (3) metastatic, as in mumps. Labyrinthitis might end in: (1) return to the normal in cases of mild serous labyrinthitis; (2) spontaneous cure with slight permanent changes; (3) spontaneous cure with destruction of the labyrinthine function; and (4) extension to the intracranial structures. In the last condition it usually gave rise to lepto-meningitis; more rarely it led to extradural abscess, cerebellar abscess, or sinus thrombosis. The most frequent path of infection, in cases of meningitis, was the perilymphatic or cochlear aqueduct. If it were not that this canal was very narrow, and that in some cases swelling of its lining membrane completely shut off the perilymph in the cochlea from the subarachnoid space, otitic meningitis would be even more frequent than it was. Discussing the clinical aspect and treatment of labyrinthitis, Mr. Fraser said that in: 1. Circumscribed labyrinthitis and labyrinth fistula, the patient complained of attacks of dizziness, with occasional vomiting, especially on stooping or turning quickly. Spontaneous nystagmus might or might not be present. As regarded treatment, the radical operation should be performed, but great care must be taken not to interfere with the fistula. If the attacks of dizziness interfered with the patient's work, the labyrinth operation might be performed. 2. Diffuse serous labyrinthitis occupied an intermediate position between the former and the manifest diffuse purulent form. As regarded symptoms the patient complained of deep-seated pain in the ear, tinnitus, and deafness. The vestibular symptoms (dizziness, vomiting, and loss of balance) were more important. The patient lay on the sound side and looked towards the diseased side as the nystagmus and giddiness were less severe. He complained that external objects appeared to move from the sound towards the diseased side. The temperature was not raised. With a lesion on the left side spontaneous nystagmus to the right was observed; when standing with eyes shut the patient tended to fall to the side of the lesion. The fistula symptom was usually absent. As regarded treatment, if the patient could still hear with the affected ear the labyrinth operation should not be performed. If, on the other hand, the diseased ear were quite deaf, and the vestibular reaction absent, the labyrinth must be opened and drained at the time of the radical mastoid operation; in other words, if we could not diagnose between diffuse serous and diffuse purulent labyrinthitis the case must be treated as one of the more dangerous variety. 3. Manifest diffuse purulent labyrinthitis lasted only from 3 to 14 days. During this period the patient suffered from intense giddiness, vomiting, and loss of balance. The vomiting was accompanied by nausea and was not of the effortless cerebral type. Marked spontaneous nystagmus was present on the sound side. Spontaneous pointing and falling were to the affected side. The fistula symptom was not present because the membranous labyrinth was destroyed. As regarded treatment, if there were no urgent symptoms, such as severe pain or signs of intracranial trouble, it was permissible to wait in order that a barrier might form. If, on the other hand, interference was called for, a free radical mastoid operation should be performed at once so as to expose the promontory and the two windows. The dura of the posterior fossa over the sinus should then be laid bare with a blunt gouge. After separating the dura the petrous bone was removed

with the gouge and hammer until the posterior and external canals had been fully opened up behind the facial nerve. The general opinion was that the cochlea should not be further interfered with unless meningitis were present. If the latter condition existed, the inner wall of the vestibule should be opened up and the subarachnoid space of the internal meatus drained. 4. Latent diffuse purulent labyrinthitis.—At the end of 3 to 14 days the manifest stage passed into that of the latent diffuse stage. The labyrinth was now entirely destroyed. There was complete deafness in the affected ear. Spontaneous nystagmus was usually absent, but there might be a slight rotary twitch on both sides. As to treatment, if the radical operation was called for, the labyrinth operation must also be performed. If this were not done the patient ran a grave risk of meningitis following as a result of the mastoid operation alone. 5. Healed labyrinthitis with compensation was probably present at a period of six months and upwards after the attack of purulent labyrinthitis. The patient was quite deaf in the affected ear. In such a case, even if the radical mastoid operation were called for, Alexander held that it was not necessary to do the labyrinth operation, as there was no fear of infection spreading from the inner ear to the meninges. Other otologists, however, considered that it was impossible to be quite sure that the labyrinth was filled with new bone. They believed that pus might still be present and that it was safer to do the labyrinth operation at the time when the radical mastoid operation was performed.—Dr. A. LOGAN TURNER said that formerly many patients after the mastoid operation died from meningitis. At that time there were no means available for investigating the function of the inner ear. Now before undertaking a mastoid operation one could ascertain whether the middle or inner ear was affected. If there were labyrinthine disease then many of the cases operated on died from intracranial complications, while if there were no such complications only from $\frac{1}{2}$ to 1 per cent. died.

Dr. DAWSON TURNER read a note on a case of Carcinoma of the Post-cricoid Region, secondarily involving the Larynx, treated by Radium. The patient was a female, aged 38, recommended for radium treatment by Dr. Logan Turner on Sept. 19th, 1913. The disease had lasted six months. On Sept. 22nd tracheotomy was performed on account of dyspnœa and subsequently a subhyoid pharyngotomy. Through the latter incision a tube of radium was introduced into the neoplasm. The tube was removed on Oct. 6th after a dose of 1680 mg.-hours had been given. This treatment was repeated on Nov. 17th and on Jan. 24th, 1914. The total dose had amounted to 5090 mg.-hours. As a result the patient had improved greatly in health, and the growth had diminished considerably in size. His own view was that a smaller dose of radium employed for a longer period had a far better therapeutic effect than a large dose applied for a short time. The prolonged action of radium allowed of a far greater penetration and destruction of deep-seated cancer cells.—Dr. LOGAN TURNER said that radium had undoubtedly prolonged the life of the patient. Without it she would probably have died within one month. A week ago the woman seemed in fair health though still unable to feed herself through the œsophagus and the growth was still present. Of 31 cases of carcinoma of the larynx which he had investigated the duration of life after a diagnosis had been made varied from three to three and a half months on an average—the shortest being a few weeks and the longest seven months. He thought that this patient might live for some time yet.—Mr. A. SCOTT SKIRVING also spoke.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Case.—Disease of Abdominal Organs.—Renal Disease.—Tuberculosis of Kidney.

A MEETING of this society was held on March 6th, Mr. A. ERNEST MAYLARD, the President, being in the chair.

The PRESIDENT showed a girl, aged 14 years, whose wrist he had excised by dorsal flap in April, 1913, on account of tuberculous disease. She now had good use of the hand with both extension and flexion.

Professor J. M. MUNRO KERR read notes of the following cases of disease of the abdominal organs. 1. A woman, aged 32, operated on in September, 1910, for a tumour in the right side close by the pelvic brim, and diagnosed as probably renal, but possibly ovarian. Nephrectomy was performed, and the tumour proved to be an encapsuled "renal hypernephroma." The patient had a normal labour at term a year later and was now very well. 2. A woman, aged 54, operated on for a tumour which was regarded as probably a malignant tumour of the right ovary. It proved to be a retrocæcal fibromyoma which had probably been at one time connected with the uterus but had become detached. 3. A woman who had suffered for years from severe attacks of pain in the lower part of the abdomen, apparently spasmodic and suggestive of intestinal obstruction. The cæcum and the end of the ileum were excised and a lateral anastomosis established between the ileum and ascending colon. A polypus was found just at the ileo-cæcal valve, and a small ulcer near it. Doubtless the polypus occasionally obstructed the passage of fæcal matter from the ileum into the cæcum, and caused the attacks of pain. Both these cases had been very well since operation. 4. A woman whose symptoms were those of stone in the right ureter. On operating no stone was found, but several calcareous glands of the mesentery. Excision of these and of the appendix, which was adherent to the cæcum, permanently removed her symptoms. 5. A woman, aged 34, who for six years had suffered from attacks of pain in the left side associated with great sickness. At the operation there was found alongside the normal left ureter a second left ureter, greatly distended, opening above into the pelvis of the kidney, and attached below to the wall of the bladder, but impervious. Excision of this abnormal ureter had to be followed seven days later by nephrectomy, as the pelvis of the kidney had apparently been torn and leakage was occurring. Post mortem the other kidney appeared normal but rather small. 6. A patient operated on for a tumour believed to be ovarian and probably malignant. It proved to be a chronically inflamed portion of the sigmoid and pelvic colon and was resected, an end-to-end anastomosis being done. The patient made an uninterrupted recovery.

Dr. DAVID NEWMAN gave an account of six recent cases of renal disease in which lumbar nephrectomy was performed, and Dr. J. A. G. BURTON showed the preparations and microscopic sections. 1. Three cases of pyonephrosis of which two were associated with calculus. In two of the cases nephrectomy was preceded by nephrotomy, evacuation of pus and drainage for periods of ten days and three months respectively. Neither patient could have survived a primary nephrectomy. 2. Aneurysm of renal artery, characterised by occasional profuse hæmaturia. On removal of the left kidney its pelvis was found to be completely filled by the aneurysm, the wall of which pressed upon and was adherent to the mucous membrane of the pelvis. 3. Hypernephroma, with history of hæmaturia for five weeks, some enlargement and tenderness of left kidney. 4. Renal carcinoma with history of severe hæmaturia for ten days, previous slighter attacks, little pain, and slight swelling in the left renal region. 5. Renal varix characterised by hæmaturia lasting three weeks, and ultimately very profuse but without pain. On exploring the left kidney a large varix was found in the pelvis close to the lower pole. A wedge-shaped section of the kidney was resected and the surfaces fixed by sutures. In all these cases cystoscopy was invaluable in determining which kidney was affected. The result of operation was in every case satisfactory.

Mr. J. MILL RENTON made some observations on Tuberculosis of the Kidney, with illustrative cases. He said that probably the commonest initial symptom was frequency of micturition associated with pyuria, and soon afterwards with pain before, after, or during micturition. Hæmorrhage might first attract attention. These symptoms might continue for a long time without any renal pain, tenderness, or rigidity. Thus, in a case which came to post mortem the right kidney consisted of two or three small cavities and the left showed very extensive tuberculous disease, yet at no time had there been pain in the renal region. It was not an invariable rule that when one kidney was tuberculous and the other sound the one ureter mouth appeared diseased and the other healthy. Thus in a case cited both ureters were affected, and only by ureteral catheterisation was it determined which kidney was diseased. Nephrectomy was performed and the patient was still well after two years. In another case the right ureter mouth

appeared healthy, but had a patch of tuberculous deposit near it, while the left showed only slight hyperæmia. The urine from the latter, however, was of low specific gravity and contained tubercle bacilli, while that from the former was normal. A markedly tuberculous left kidney was removed and the patient did well. A tuberculous condition was sometimes masked by a bacillus coli infection, as in a case referred to. Tuberculin treatment had been very successful in the case of a woman who was found by catheterisation to have only one functioning kidney, and that tuberculous.

WIGAN MEDICAL SOCIETY.—A general meeting of this society was held on Feb. 20th, Dr. John Thomson Shirlaw, the President, being in the chair.—Dr. R. Prosser White opened a discussion on the Control of Syphilis. Dr. White gave as heads of his subject the following: (1) That the profession in this country had shirked its responsibility; (2) that the public was ignorant; (3) that dermatologists had forced the matter into the light of a public inquiry; (4) its prevalence and ravages; (5) it should take precedence of tuberculosis; (6) the methods of dealing with it in other countries; (7) should it be notified, if so, how? and (8) the one way of control. Dr. White did not take these divisions in the order given, but they formed the framework of his paper. He held that it was largely due to the apathy of the profession and the ignorance of the public that they in this country were in such a backward state as regards the recognition and treatment of syphilis, that dermatologists had been keeping the matter in the foreground for years, and that it was largely due to their efforts, here and in other countries, that such progress as could be recorded was made. In Great Britain there were practically no statistics outside the army and navy. They were lamentably behind other nations. The Scandinavians were far ahead of them, syphilis being a notifiable disease in Denmark, Sweden, and Norway. In Russia it had been notifiable for a long time, and supervision was very strict. In their own colonies the matter was being taken up, and Australia was at present legislating on the subject. In New York State all information respecting the persons suffering from the disease was compulsory, save the name and address, and Wassermann and other reactions were made free. The incidence of syphilis was very wide. In Copenhagen 28 per cent. had venereal disease; in Berlin (Erb) 12 per cent. were syphilitic; in Paris (Fournier) 15 per cent.; and in Norway 11 per cent. of all males were suffering from syphilis. Byrom Bramwell stated that 75 per cent. of those who contracted syphilis eventually died from it. It was responsible for 40 per cent. of all cases of insanity (Mott). Possibly with the exception of malaria syphilis was the cause of more deaths than any other disease, taking the world through. In New York, French says, there were 50,000 fresh cases annually, and probably 70,000 in London. Treatment was free in Sweden and Norway, but it was not thorough. In Denmark treatment was compulsory and free, and neglect of treatment was an illegal act, and therefore punishable. In Rome it was treated by dispensaries, State supported. The law in this country left syphilis severely alone. The communication of any other contagious disease could be punished by law; not so syphilis, the most serious of them all. It was almost neglected by the public health and the Poor-law authorities. Dr. White expressed the opinion that notification of some kind ought to be made compulsory, and that the only way to control the disease with any chance of success was that treatment should be free, generous, and, if necessary, compulsory.—The President mentioned that the Wassermann reaction could not be obtained in the early stages, and that the best early test was the microscopical examination of serum from the sores.—Mr. M. G. McElligott mentioned the extraordinary knowledge of syphilis, its origin and treatment, &c., shown by the public as well as the profession in St. Petersburg.—Dr. M. Benson thought one of the reasons why more was not known of the disease in this country was that the treatment was largely in the hands of herbalists, charlatans, and quacks. He was of opinion that both parties contracting or spreading syphilis should be punished and that the disease should be notified.—Dr. T. Campbell stated that the International Medical Congress had put forward two propositions: (1) That syphilis be notified, names of persons suffering not disclosed; and (2) that there be depôts for serum reactions and treatment. He referred to the limitations of "606," and its inability to penetrate to the central nervous system, and said that in London 40,000 cases were seen and treated every year.—Dr. F. E. Wynne said the reason the State did not take the matter up was largely due to Mrs. Grundy. That lady did not believe in facing facts, and the "State regulation of vice" stank in her nostrils.—Dr. J. Blair mentioned the enormous prevalence of syphilis in Southern Russia and the knowledge of the best forms of treatment among the laity, and quoted from the *British Medical Journal* the statement that syphilis was responsible for 33 per cent. of pathology and gonorrhœa for 50 per cent. of gynæcology.—A vote of thanks was unanimously passed to Dr. White, who, in replying, referred to many of the points raised during the debate, specially laying stress on the fact that syphilis was very amenable to treatment, which, however, must be thorough and prolonged. The control of tuberculosis was a question of housing, that of syphilis a question of treatment.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on March 13th, the President, Dr. A. K. Chalmers, being in the chair, when a paper was read by Dr. A. S. M. MacGregor, tuberculosis officer of Glasgow, entitled "Studies in the Epidemiology of Phthisis." After pointing out the great difference in various towns in respect of the proportion of notifications to deaths, due apparently to the varying clinical standards, Dr. MacGregor said that it had been the experience in Glasgow that many notifications were of doubtful value, and that for the purpose of testing the accuracy of notifications as well as of getting into touch with practical issues he had endeavoured to follow the cases notified in 1910 during the three succeeding years. Of the 3425 cases notified in 1910 nearly 53 per cent. of the patients had died, though 2 per cent. were certified as having died of a disease other than tuberculosis. 30 per cent. had either left the city or could not be traced. Of the remainder 13·9 per cent. were at home and 2·3 per cent. in institutions. Referring to contacts Dr. MacGregor said that it was regarded as an axiom in anti-tuberculosis work that the members of a family where a case of phthisis had occurred should be subjected to medical scrutiny for the detection of other or early cases in the same household. Records had been kept in Glasgow of the incidence of phthisis in the immediate contacts of cases already under notice. Comparing the number of secondary cases which were found with the number that might be expected from the attack rate of the whole population, there was a difference of only about 1 or 2 per cent., the cases being actually 63 per annum more than might have been expected. These results Dr. MacGregor considered did not indicate that the setting up of elaborate administrative machinery for the examination of contacts would be attended by the discovery of more than a relatively small proportion of the cases which occurred in the course of the year.—Dr. W. G. Willoughby stated that in Eastbourne he received about five times more notifications of cases of phthisis than there were deaths from the disease. He emphasised the importance of following up notified cases.—Dr. R. Veitch Clark considered that inquiries should be made into the mortality rate of those cases which had had only six months' treatment. He was of opinion that better results would follow from more prolonged treatment than was usually given.—Dr. E. W. Hope thought that at least one-half of the value of institutional treatment lay in the isolation and removal of infected persons. He deprecated the putting forward of inflated hopes with respect to the treatment of phthisis—a practice which was not adopted as regards other diseases.—Sir Shirley Murphy hoped that information would be forthcoming as regards the social position of those contacts who were infected, and thought that probably it might then be found that among the lower classes the expected and actual figures would not be very far apart.—Dr. P. Caldwell Smith considered that greater energy should be directed to tuberculous children, when much better results would be obtained.—Mr. E. H. T. Nash said that in Wimbledon he received two notifications to one death. He asserted that it was two months after a case had been diagnosed before the patient could be got into a sanatorium under the National Insurance Act, whereas a Post Office employee was sent to an institution in a week.—Dr. Alfred Greenwood was certain that when tuberculosis dispensaries had really got into working order the results as to the future working

capacity would be much more favourable than they were at present.

MANCHESTER MEDICAL SOCIETY.—At a meeting of this society held on March 4th Dr. W. Wilson read a paper on the Relation of Throat and Nose to Some Diseases met with in General Practice. He expressed the opinion that the generally accepted views regarding the function of the erectile tissue of the nose were incorrect. The lining mucosa of the air sinuses, he said, warms and moistens the inspired air providing this mucosa is healthy. The erectile tissue can be removed and no harmful effects will follow. The anterior portion of the middle turbinal is of extreme importance in this respect, as it is full in the line of the inspiratory stream. Nasal suppuration is one of the chief causes of pneumonia, broncho-pneumonia, and flatulent dyspepsia. Influenza, gout, and rheumatism are the commonest causes of throat and nose troubles. Influenza, tonsillitis, acute rheumatism, and some forms of appendicitis are all manifestations of the same infection. The tonsils should be completely enucleated if at all affected in acute or chronic rheumatism. In children the tonsils and any adenoids present should be removed on the first signs of nervous irritability, anæmia, and "growing pains"; this will prevent most of the severe cardiac affections of childhood. "Neuroses" of the upper respiratory tract can usually be traced to some minute organic lesion. Tonsils should not be enucleated before the age of 4 years.—Dr. A. A. Mumford read a paper on the Estimation of Physique and Stamina of Children for School Purposes. He began by emphasising the necessity of distinguishing physique, which was really structure, from stamina, which, he said, is the sustained capacity to utilise the structure and put forth mental and physical energy. The problem increases with adolescence as the structure is incomplete and future capabilities are unknown. The various methods adopted in the past are suitable only for estimating the bodily growth and for nutrition. Pignet's factors and Oppenheimer's formulæ were discussed; also factors derived from an examination of the reports of the anthropometric committee of the British Association. The limitation of estimates obtained by medical examination of individual organs was dealt with. Methods of calculating physique were described. Dr. Mumford concluded his paper by a description of the work accomplished at the Manchester Grammar School.

NEW LONDON DERMATOLOGICAL SOCIETY.—A meeting of this society was held at the Western Skin Hospital on March 12th, Dr. David Walsh being in the chair.—The following were among the cases shown:—Dr. Walsh: A case of Recent Deafness being treated by intravenous injections of neosalvarsan. There had been found a positive Wassermann reaction and there were traces of long-healed dermato-syphilides.—Dr. G. N. Meachen: Recurrent Œdema of the Right Cheek without definite cause. As the result of the discussion a further examination of the teeth and antrum would be undertaken.—Dr. Alfred Eddowes: A completely generalised Acute Eczema which appeared to be due entirely to external infection. It began a year ago as a bicycle rash, spread to the groins, then to other folds, and finally burst out all over the entire skin. All the lymphatic glands were swollen, the skin red, swollen, and so irritable as to prevent sleep. A pure culture of staphylococcus albus was found in vesicles on the palm. Recovery was rapidly taking place under mild antiseptics and vaccine injections.—Mr. H. C. Samuel: 1. A case of Spontaneously Ulcerating Nævus in a very young child. After the trial of many dressings it was healing under liquid paraffin covered by gauze containing a very mild solution of perchloride of mercury. 2. A case of Leucodermia affecting the centre of the right eyebrow, the centre of the upper eyelid, the right cheek, temple, and the side of the mouth.—In the discussion that followed Dr. Walsh laid stress on the fact that the child had suffered long and severely from toothache on that side.—Dr. Eddowes recalled a case of leucodermia which supported that contention.

ADMINISTRATION OF THE MENTAL DEFICIENCY ACT.—Sir William Byrne, chairman of the Board of Control under the Mental Deficiency Act, is announced to read a paper before the London District Poor-law Conference on May 11th on "The Administration in London of the Mental Deficiency Act."

Reviews and Notices of Books.

Sanatoria for the Tuberculous, including a Description of many Existing Institutions and of Sanatorium Treatment in Pulmonary Tuberculosis.

By F. RUFENACHT WALTERS, M.D. Lond., M.R.C.P. Lond., F.R.C.S. Eng., Joint Tuberculosis Officer to the Surrey County Council. Fourth edition. London: George Allen and Co. 1913. Pp. 445. Price 12*s.* 6*d.*

OWING to the vast extension of the antituberculous machinery in various parts of the civilised world the author has deemed it necessary to rewrite the present edition. He has also taken advantage of the opportunity to give a more complete description of the principles and methods of sanatorium treatment. Unfortunately, the term "sanatorium treatment" has given rise to much misapprehension, the idea being rife, not only amongst the laity but also amongst practitioners, that whenever an individual is suffering from pulmonary tuberculosis, no matter what type the disease may present, he or she ought to go into a sanatorium. Consequently this form of treatment has been somewhat discredited, not by a failure on the part of the treatment, but on account of the totally unsuitable cases which have been sent to the various institutions.

Dr. Walters, in discussing the scope of sanatorium treatment, states that although originally intended for early and easily curable cases, it has been found impossible to limit admissions to this class. He suggests that a modern sanatorium requires at least two more or less separate departments, one for the rest cure of those who are feverish or otherwise unfit for exercise; and another for physical training by graduated exercise. We believe that better results would be obtained and that confidence would be again restored if only those patients were sent to sanatoriums who are able to take exercise and be out of their beds most of the day; febrile cases being treated at other institutions or at home if the circumstances are favourable. We quite agree, however, with the remark that mere pleasure seekers and those who will not submit to a regulated life are best excluded. Several chapters are devoted to a consideration of sites and climates suitable for the erection of sanatoriums, and the construction, decoration, and necessary furniture for such institutions are duly discussed.

The remarks on sanatorium treatment and its results are worthy of careful study. As Dr. Walters remarks, if the fresh-air treatment merely consisted in letting every patient rest in the open air, or follow his own inclinations as to the amount of exercise, it would be an exceedingly simple matter, scarcely requiring medical supervision. But the essence of sanatorium methods is the elimination of haphazard treatment and the prescription of absolute repose or of various degrees of exercise, according to definite medical indications. Details are given of the daily life to be followed by patients suffering from pulmonary tuberculosis, stress being laid on the differences to be observed in febrile and afebrile cases respectively. The chapter on rest and exercise for the afebrile is a good summary of the principles which should be followed.

In speaking of the results of treatment Dr. Walters shows how difficult it is to obtain accurate statistics. He rightly points out that these results depend on three factors: on the nature of the case, the nature and circumstances of treatment, and the

after conditions. If it is wished to estimate the value of any particular form of treatment care must be taken to compare like with like, and to deal with sufficiently large numbers to avoid fallacies from unknown or unrecognised factors. We agree with him that but few of the published statistics have taken account of these elementary rules of comparison. Groups of cases have been compared which differ in extent and severity, in conditions of life and pecuniary resources, and in the place and climate in which they are treated; the method of treatment, its duration, and the amount of after care have all been at variance. It is impossible to extract reliable statistics from such a mixture.

The greater portion of the book is occupied with descriptions of the sanatoriums which have been established in various parts of the world. The amount of labour devoted to the collection of the details must have been immense. Dr. Walters has performed good service in compiling his valuable work of reference.

Lehrbuch der Nervenkrankheiten für Studierende und Praktische Ärzte.

In 30 Vorlesungen. Von ROBERT BING, Dozent für Nervenheilkunde an der Universität Basel. Mit 111 Abbildungen. Berlin and Vienna: Urban and Schwarzenberg. 1913. Pp. 606. Price, paper, 18 marks; bound, 20 marks.

Dr. Bing says in his preface that as a student the perusal of text-books written in the form of lectures always proved a refreshing oasis in the desert of an examination "grind," so much so that he resolved to cast his own text-book of nervous disease in that form. He has, however, attempted a compromise by the inclusion of tables of symptomatology and of differential diagnosis, and by the addition of a very full index to the subject matter of, and incidental allusions in, the lectures. Without discussing the question of whether the disadvantages of the lecture type of text-book do not outweigh its advantages, we may say at once that these lectures of Dr. Bing are very readable and lucid, that they cover the whole field of neurology, perhaps a little unequally, and that they bear witness to the author's clinical experience and erudition.

The chapters are arranged under such general headings as diseases of the peripheral nerves, the dyskinesias, pathological conditions characterised by spasticity, acute infective nervous diseases, syphilitic nervous diseases, encephalorrhagia and encephalomalacia, arteriosclerosis, infantile hemiplegia and diplegia and Little's disease, cerebellar diseases, dysglandular symptom-complexes. An arrangement of this sort presents certain features that are obviously open to objection. Thus the common condition of hemiplegia, to take but one instance, is subdivided and spread over several separate headings; there is, as it were, a cross division of the subject instead of a longitudinal. We should think that the originality and suggestiveness of the book would be best appreciated by those who already have a fair knowledge of neurology as a whole. In a book which describes itself as a "Lehrbuch" we should like to see references to the symptomatology of the uncinate region; this appears to have been overlooked. Among the types of crossed hemiplegia there is no reference to the type with hemiplegia on one side and blindness in the contralateral eye. We cannot find adequate description of the rôle of the spirochæta in general paralysis. The allusion to myotonia atrophica is of the briefest; the symptomatology of disease of the optic thalamus and corpus striatum, especially the latter, should have more attention given it in a text-book of 600 pages.

Notwithstanding these and other possible criticisms, we consider Dr. Bing's book an excellent example of its kind. The paragraphs on pathological anatomy and on treatment are good; the latter, in particular, seem both practical and sufficient. The author's views on the Freudian hypothesis and method of treatment are expressed in no hesitating fashion; he speaks of "the enormous exaggeration of the frequency of an infantile sexual etiology," "the widespread uncritical elaboration of the 'conversion' idea," and so on. He points out how little the method of psycho-analysis is required to discover (or to suggest!) the sexual etiology of some cases. He shows how the improvement of many cases along psycho-therapeutic lines is no argument for the dogma of the "Einklemmung des Affektes." The text-book, as a whole, is a readable account of modern neurology.

Ophthalmic Semeiology and Diagnosis.

By CHARLES H. BEARD, M.D., Surgeon to the Illinois Charitable Eye and Ear Infirmary, &c. With 13 coloured plates and 71 figures in the text. London: Kebman, Limited. 1913. Pp. 400. Price 21s. net.

THIS book is another volume of the International System of Ophthalmic Practice, edited by Dr. Walter L. Pyle, of Philadelphia, to which belong Darier's "Ophthalmic Therapeutics" and Collins and Mayou's "Pathology and Bacteriology of the Eye," already reviewed in our columns.

It must have occurred to many teachers of ophthalmology to write a text-book dealing with diseases of the eye from the standpoint of signs and symptoms. It is the aspect of the subject which is presented to the surgeon and student by every case he sees. Yet it is not surprising that so difficult a task has not hitherto been seriously attacked. Only those of very wide clinical experience could attempt it, and to them the time necessary for carrying out the project is usually lacking. Dr. Beard has made a valiant effort, but it must be admitted that the result is not completely successful. The book is divided into two parts, of which the second is devoted to the fundus oculi and consists of eight chapters or 180 pages. The first nine chapters, or 196 pages, suffice for all the diseases of other parts of the eye. Such an unequal division of the subject carries its own condemnation, and it is only the portion dealing with fundus conditions which can be said to be adequate. This part is really well done, and the beautiful coloured plates and numerous black-and-white illustrations in themselves make up a desirable ophthalmoscopic atlas. Even here, however, the author uses space which he can ill afford for theories of detachment of the retina and so on, problems of great interest but not immediately germane to semeiology. In the first part, where space was still more valuable, we find pages devoted to elaborate classifications of cataract and the theories of its causation, while important subjects like interstitial keratitis and cyclitis are dismissed in a few words.

The book is well printed, with the exception of a few Greek derivations, almost all of which contain misprints. It is worth buying for the illustrations and the text of the part devoted to the fundus oculi.

A Text-book of Physiology for Medical Students and Physicians.

By WILLIAM H. HOWELL, Ph.D., M.D., Sc.D., LL.D., Professor of Physiology in the Johns Hopkins University, Baltimore. Fifth edition, thoroughly revised. London and Philadelphia: W. B. Saunders Company. 1913. Pp. 1020. Price 18*s.* net.

THE advances in all departments of physiology are so rapid that to select and to add to the text of a well-considered and approved work on physiology, such as the one before us, the significant and salient new facts that have been discovered during the past two years is no easy task. We think the author has succeeded, as in former editions, in keeping his text-book abreast of current investigations. Since the publication two years ago of the fourth edition, which was reviewed in THE LANCET of Dec. 16th, 1911, p. 1707, material advances have been made in physiological chemistry, and more especially in that department which deals with the details of intermediary metabolism. Moreover, our increased knowledge of the specific functions of the different proteins in the growth and the maintenance of the body has opened up a new path, which bids fair to be of fundamental importance in dietetics. In this connexion the exposition of the author on such subjects as the nutritive value of different proteins, the specific dynamic action of proteins and vitamines is terse, illuminating, and suggestive. Here and there we find additions to the literature quite up to date, so that the advanced student can, by consulting this book, pursue in greater detail the subject he is interested in.

Substantially this edition, in all its arrangements and essential details, is like the last edition with here and there some new matter judiciously added so as practically not to increase the bulk of the volume. So far as the actual number of pages is concerned the increase amounts to only two pages, while the number of illustrations is practically the same in both editions. The book remains a safe and comprehensive exposition of the present state of our knowledge on physiological matters in application to medicine.

Konstitution und Vererbung in ihren Beziehungen zur Pathologie.

Von Professor F. MARTIUS. With 13 illustrations in the text. Berlin: J. Springer. 1914. Pp. viii.–258. Price 12 marks.

THE year 1914 is to be marked by the publication of the first half dozen volumes of a new series of German medical text-books. They are to form an "Encyclopædia of Clinical Medicine," edited by Professor Langstein, Professor von Noorden, Professor von Pirquet, and Professor Schittenhelm. Each is to combine clinical science with clinical practice; each will be complete in itself, a full and authoritative exposition of its subject; together, the separate manuals are to cover the whole field of clinical medicine, both general and special. This, the first volume to appear, deals with constitution and inheritance, and gives as clear an account of those much misused terms as one may hope to find. Professor Martius writes at full length, quoting freely and freely criticising many of the authors who have busied their pens with this subject before him. He confines himself to general principles, and but rarely falls back on their practical applications in daily life. Thus he has singularly little to say on the subject of inheritance in tuberculosis, the familial predisposition to phthisis. He mentions that the tubercle bacillus is a *sine quâ non* in tuberculosis, and that polymasty is commoner in tuberculous than in non-tuberculous persons; for the rest, his few isolated references to this important subject leave it unilluminated.

The book is well written, thoroughly indecisive, and perhaps inevitably so. One rises from its perusal with a feeling of the unreality pervading much that has been written about constitutions, diatheses, family tendencies, and the like, terms that so conveniently cloak ignorance and stem the tide of research into the obscurities of causation in disease. Professor Martius has produced an interesting volume, and it may be warmly commended to the attention of all medical philosophers.

Chirurgie Générale et Chirurgie Orthopédique des Membres.

Par PL. MAUCLAIRE, Professeur Agrégé à la Faculté de Médecine, Chirurgien de la Charité. Avec 317 figures dans le texte. Paris: J. B. Baillière et Fils. Pp. 542. Price, paper, 10 francs; boards, 11.50 francs.

THIS is another volume of the excellent Nouveau Traité de Chirurgie, edited by Professor A. Le Dentu and Professor Delbet. From the title of this volume it will be seen that it covers a large area. The first section deals with the subject of traumatism of the limbs, and the second treats of the infections. In the third section the tumours of the limbs are considered, and here it may be noted that the author has included the tumours of the shoulder girdle and of the hip girdle; this is as it should be, as both embryologically and pathologically these are essentially parts of the limbs. It is probable that the most valuable part of the volume is that dealing with deformities, for, indeed, these must always form a very large portion of the conditions in the limbs requiring surgical treatment; here we see the author at his best, and the wealth of illustration, when added to the clearness of the descriptions, renders the book a most valuable treatise on this important subject.

We may draw attention to the account of the surgical treatment of infantile paralysis. This is always a very difficult subject, and the number of methods that have been devised for treating the deformities resulting from these paralyses is very great; but Professor Mauclaire has succeeded in putting very clearly the various procedures at the surgeon's command, and his advice as to the choice to be made is judicious.

The Administrative Control of Small-pox.

By W. McC. WANKLYN, B.A. Cantab., M.R.C.S. Eng., D.P.H. London: Longmans, Green, and Co. 1913. Pp. 86. Price 3*s.* 6*d.* net.

THIS is a companion volume to the useful little work by the same author entitled "How to Diagnose Small-pox," which was reviewed in THE LANCET of Oct. 25th last year. Mr. Wanklyn tells us that it was drafted primarily for post-graduate students reading for the Diploma in Public Health, but we agree that it will also be found useful by those who have to deal with outbreaks of small-pox.

As in his former work, Mr. Wanklyn adopts a conversational style, and his talk to his readers is that of a health officer with special knowledge of the disease, who knows how to impart the essential matters which he has learnt by experience. The book is all that can be desired as a guide to the student on the methods of control

adopted in London and in large centres of population where there is an extensive and well-organised sanitary equipment which includes a first-rate ambulance service and a sufficiently isolated small-pox hospital kept at all times in readiness. As a practical guide to the medical officer of health of a smaller provincial town or rural district it is rather less satisfactory. Here, when the medical officer has a casual case or two of small-pox to deal with, he may be quite unable to "telephone the case away," or "dispatch his staff to make inquiries," or to do other things which come so easy in the metropolis. But he need not on that account consider himself on the brink of disaster if he keeps in mind a few simple principles based on the elementary facts of small-pox and vaccination and applies them to the circumstances. In this connexion we note that Mr. Wanklyn includes, as the seventeenth proposition of small-pox administration, that reports should be sent to the "proper authorities." It is well to be specific; the authorities in question are the Local Government Board and the county council, and the medical officer of health in the circumstances to which we refer would find it advantageous to reckon reporting to these bodies among the first of his duties. However well he may have the matter in hand, a valuable reserve force will then be behind him.

The author rightly lays stress on the necessity of keeping small-pox in mind in inter-epidemic periods, and being always on the watch for its unexpected appearance. But it is going rather far to recommend every medical officer of health to have reported to him "newspaper accounts of small-pox occurring within 14 days' journey," or to keep "a note of small-pox occurring in no matter what part of the world." We do not know how far these matters receive attention at the Local Government Board, but they seem essentially questions which one central health authority could sufficiently study for the needs of the whole country.

LIBRARY TABLE.

Collected Papers. By the Staff of St. Mary's Hospital, Mayo Clinic, Rochester, Minnesota. For the year 1912. London and Philadelphia: W. B. Saunders Company. 1913. Pp. 842. Price 24*s.* net.—We have on two previous occasions expressed our approval of the practice (adopted by the Mayo Clinic) of reprinting in one volume the papers published in the periodical press by the members of the staff of that hospital, so that it is unnecessary to say more than that we are pleased to see another volume of their collected papers. This volume contains some 69 papers ranging over the whole of surgery, from diffuse dilatation of the œsophagus to a bony tumour of the foot. The volume is well illustrated and well printed. It is difficult among so many interesting papers to say which are the most important, but a few may be referred to as of special interest. Three papers on Diverticula of the Bowel may be mentioned. The first is on the Diagnosis of Diverticulitis of the Large Bowel, by Dr. H. Z. Giffin. This is based on 27 cases at the Mayo Clinic on which operations were performed during the ten years ending Jan. 1st, 1912. The resemblance of the symptoms in many of the cases to carcinoma of the bowel is sufficient justification for a thorough study of this rather rare condition. The same 27 cases have been analysed in a paper by Dr. B. F. McGrath. This analysis shows that in 20 out the 27 cases the diverticula were situated in the sigmoid. A third paper is by Dr. Charles H. Mayo, and it deals with the whole subject of Diverticula of the Gastro-intestinal Tract and their Surgical Importance. All the papers give valuable data for the consideration of a subject which is now attracting a good deal of attention. Another paper to which we should like to draw attention is on the Surgical Importance of the Thymus, by Dr. C. H. Mayo and Dr. B. F. McGrath. It represents very fairly the present state of our knowledge on the subject. The conclusions that the authors draw are for the most part not very definite, except that the most satisfactory method of relieving the symptoms of enlarged thymus is by operation.

Short Key to the Identification of the Anopheline Mosquitoes of Malaya, for the Use of Medical Officers and Others. By C. STRICKLAND, M.A., B.C. Kuala Lumpur, F.M.S.: Government Printing Office. 1913. Pp. 15.—Though several large and comprehensive works exist, as well as, of course, many memoirs, in which the anopheline mosquitoes are described, it is a laborious task to hunt a particular species through many pages of description and plates or text-figures of illustration. The author of this "key," therefore, is undoubtedly performing a useful task by selecting from the total the 15 species which convey malaria, and defining them in an easy fashion. For all practical purposes, says the author, there are no more than these 15. Diagrams of wings, legs, and other parts of the mosquito organisation illustrate the characters used to differentiate one from another, the species of anopheles dealt with, and the medical officer—or indeed a less instructed person—cannot but identify by its help the flies before him. The chief danger of such a key, which is not ignored by the writer, is that the discovery or inclusion of other species may render it difficult or comparatively useless for its purpose. A list of the principal references to the literature is appended.

The Cancer Problem: a Statistical Study. By C. E. GREEN, F.R.S.E. Third edition. Edinburgh and London: William Green and Sons. 1914. Pp. 98. Price 5*s.* net.—Mr. Green's view that there is a direct relationship between the sulphur content of the fuel consumed and the mortality from cancer was considered in an annotation in THE LANCET of August 16th, 1913, p. 506, so that it is unnecessary to discuss it further here. Suffice it to say that he draws his support for his theory from the relationship he endeavours to establish between cancer incidence, occupation, and locality. The book contains illustrations of apparent malignant disease in the underground parts of plants, which the author attributes to vitriolated manures.

Practical Nursing. By the late ISLA STEWART and HERBERT E. CUFF, M.D. Lond., F.R.C.S. Eng. Fourth edition, revised and enlarged, by H. E. CUFF, assisted by W. T. GORDON PUGH, M.D., B.S. Lond. Edinburgh and London: William Blackwood and Sons. 1913. Pp. 448. Price 5*s.* net.—This work was originally published in two volumes, the first of which was reviewed in our issue of April 21st, 1900, and the second, which took some time to appear, in our issue of Oct. 17th, 1903. A further edition was reviewed in 1905, and concerning the edition now before us we can but repeat that which we then said—namely, that the book is sound, practical, and useful. The new matter deals with the treatment of disease by vaccines, light, and X rays, and the rationale of these three methods of treatment is clearly and simply explained. The book is one that

might be useful to newly qualified men just entering practice.

MISCELLANEOUS VOLUMES.

THE South African Red Cross Society, recognising the large number of persons to which the mining industry of various kinds in South Africa gives employment, and the special liability to serious accidents, often of a specialised character, has issued an admirable little volume, entitled *First Aid in Mining*, by Dr. LOUIS G. IRVINE (Johannesburg: South African Red Cross Society. 1913. Pp. 118). The booklet describes the materials provided for first-aid treatment in mining accidents; the usual first-aid treatment for wounds, fractures, bleeding, &c.; and the transport of the injured in mining accidents, with descriptions of various kinds of stretchers for use underground. These are followed by chapters on Accidents from Poisonous Gases ("gassing"), from Electricity, and Cyanide Poisoning. The book will be useful in many industrial works as well as mines.—— We have already noticed several of the excellent manuals published by the British Red Cross Society. To these Lieutenant-Colonel S. GUISE MOORES, R.A.M.C., has now added a *Hygiene and Sanitation Manual*, No. 4 (London, New York, Toronto, and Melbourne: Cassell and Co., Limited. 1914. Pp. 184. Price 1*s.* net). It has chapters on the Prevention of Disease, Water and Water-supplies, Food and Sanitation, Personal Hygiene and Allied Subjects, Household Sanitation, and Field Sanitation, with appendices concerning the Red Cross and its Work. There are some admirable coloured illustrations of various disease micro-organisms, besides ample diagrams and sketches to illustrate sanitary construction and other matters. In view of the importance attached in the modern defence scheme to the services of voluntary aid detachments a manual of this description was much needed.——The *Aids to Medicine*, by Dr. BERNARD HUDSON (London: Baillière, Tindall, and Cox. 1914. Pp. 322. Price 3*s.* 6*d.* net), now appears in its second edition. It is claimed that the subject matter has been revised, added to, and brought up to date, and such we have found to be the case by some tests which we have made. Works of this character, we find it necessary to repeat, may be useful, but only if properly used as adjuncts to serious work, and not as substitutes therefor.—— The Scientific Press, Limited, continues to add to its Pocket Guide Series, price 1*s.* each net. In *Asepsis and How to Secure It* Mr. H. W. CARSON, F.R.C.S., gives such details for nurses as are calculated to enable them intelligently to coöperate with the surgeon and to impress upon them the importance of forming surgical habits. In *Wounds and their Management*, Dr. J. K. WATSON gives an intelligent summary of the view of the subject which will prove of service to nurses and to first-aid students. *Surgical and Medical Dressings and other Applications*, by M. R. HOSKING, compresses a great deal of useful information into a small space. The Scientific Press also sends us the *Nursing Mirror Pocket Encyclopædia and Diary*, 1914, and the *Midwife's Pocket Encyclopædia and Diary*, 1914 (the price of each of which is 6*d.* net), both of which contain, besides blank diary sheets, much suitable information about a wide range of professional subjects, such as antitoxins, bacteria, baths, diet, fumigations, legal notes, electricity, registration of births and deaths, the Midwives Act, and rules of the Midwives Board.

We have had occasion to refer to many books dealing with South Africa and the South African war, and to these must now be added *Sister Henrietta* (London: Longmans, Green, and Co. 1914. Pp. 157. Price 2*s.* 6*d.* net). Edited by Dowager Lady LOCH and Miss STOCKDALE.— Sister Henrietta (Stockdale) was a pioneer of the nursing craft in South Africa, and her organising and administrative capacity did much to build up the nursing profession in the Dominion. The book deals with her home life, extracts from her correspondence and her diary during the war from October, 1899, to February, 1900—i.e., during the siege of Kimberley. The final chapter deals with hospital work in Kimberley from 1879, and is written by one of Sister Henrietta's oldest friends and fellow workers who came to work under her there in that year. Lady Loch, in the preface, speaks of Sister Henrietta as "one of the finest women characters I have ever known in my long life," and judging from the portrait opposite the title page one can well believe it.

An interesting book is *The Garden City Movement Up to Date* (London: Garden Cities and Town Planning Association. 1914. Pp. 82, with 40 plans and 22 views. Price 1*s.* net), by Mr. EWART G. CULPIN. The introduction reviews the history of the movement along the lines advocated by Mr. Ebenezer Howard, from 1899 to 1914. The essential principles of a garden city are laid down, and the differences are defined between garden cities, garden suburbs, and garden villages. In the introduction to the second edition the phenomenal growth of the system in 1913 is detailed, but the warning is added that "many of the schemes that are called garden city schemes have nothing in common with the Garden City Movement but the name, which they have dishonestly appropriated." Pages 19 to 60 are occupied with particulars of the various estates arranged in alphabetical order, while pages 61 to 67 deal with the garden city movement abroad. A table gives a summary of the present position of all those estates and societies of which particulars are available (58 in number) as regards area, proportion developed, mode of control, houses and population, rents and rates.

JOURNALS AND MAGAZINES.

The Journal of Physiology. Edited by J. N. LANGLEY, Sc.D., F.R.S. Vol. XLVII. No. 6. Feb. 27th, 1914. Cambridge University Press. Pp. 407–508. Price 6*s.* 6*d.*— The Effect of Glucose on the Gaseous Metabolism of the Isolated Mammalian Heart, by C. Lovatt Evans. With a view to obtain data as to the influence that glucose exerts on the gaseous exchanges of the normal heart, which might subsequently be studied in the hearts of diabetic animals, the author experimented on the now well-known normal heart-lung preparation (dog). The addition of glucose to the circulating blood of such a preparation raises the respiratory quotient, which in the author's opinion indicates that the isolated organ has the same power as has the entire organism to carry out to full completion the oxidative processes which it commences. The respiratory quotient, however, is not raised beyond a certain maximum, which usually lies below 0·9. The respiratory quotient of the heart is markedly increased by previous carbohydrate diet, and it is then often decidedly higher (above 0·9) than that which is obtained by the addition of glucose to the blood. It is calculated that the normal heart of the dog obtains about one-third of its energy supply by oxidation of carbohydrate. But in animals deprived of carbohydrates for some time previously the amount may be, and usually is, much less than this.—Further experiments on the Action of the Vagus on the Electrogram of the Frog's Heart, by G. Ralph Mines. This contribution enlarges and carries forward the author's intimate study of this subject. Apart altogether from the technicalities of experimentation, it is important to note that by the local application of atropine to the sinus venosus of the frog's heart the effect of stimulation of the intracranial vagus on the frequency of the beat can be eliminated while the effect on the auriculo-ventricular junction and on the ventricle remains. Vagus stimulation causes reduction in the rate of transmission of excitation from auricle to ventricle and diminution in the duration of the excited state in the ventricle.—On the Average Composition of the Alveolar Air and its Variations during the Respiratory Cycle, by A. Krogh and J. Linhard (Copenhagen). The authors describe methods by which the variations in composition of the alveolar air taking place during an expiration (and inspiration) can be studied, and they state certain results obtained by them. They also state that "during muscular work the alveolar CO_2 percentage, as determined by the Haldane-Priestley method, is much too high and the O_2 percentage too low.—The Effects of Adrenalin on the Gaseous Metabolism of the Isolated Mammalian Heart, by C. Lovatt Evans and Sagaro Ogawa (Japan). Barcroft and Dixon found that the oxygen consumption was much increased when adrenalin was given in such doses as to accelerate the heart. The present investigation was directed to find the effects of adrenalin on the respiratory quotients of the isolated heart. The effects of adrenalin were studied on the isolated heart in two ways: (1) by adding small amounts of adrenalin and

observing the effects which these doses had upon the metabolism of the organ; (2) adrenalin was added continuously. The authors find that adrenalin greatly increases the total gaseous exchanges of the heart, and that the oxygen usage is roughly proportional to the increase in the pulse-rate. When a single dose of adrenalin is given the oxygen intake attains the maximum during the next few minutes, while the CO_2 maximum occurs some time later. Adrenalin neither increases nor diminishes the power of the tissues to utilise carbohydrate.—The All-or-None Principle in Nerve, by E. D. Adrian. This contribution is a continuation of an earlier paper (1912). The author from his experiments concludes "that in any nerve fibre under normal conditions there is an all-or-none relation between the strength of the stimulus and the size of the propagated disturbance which follows it." In an addendum a suggested explanation is offered.—Studies in Beri-beri: VIII., the Relationship of Beri-beri to Glands of Internal Secretion, by Casimir Funk and Mackenzie Douglas. "The present inquiry, which is the first step in this line, has shown very pronounced changes in the glands of internal secretion in pigeons suffering from beri-beri." "The most prominent feature of avian beri-beri is a complete disappearance of the thymus, an organ normally very large and persistent in these birds. Eight beri-beri pigeons were examined and the following glands—thymus, pituitary, thyroid, suprarenal, ovary, testes, liver, kidney, pancreas, and spleen—showed a diminution in size in every case. Microscopically there was a marked degenerative change of the cells with higher functions, the most marked change being the disappearance of the thymus.—The Effect of Thymus Feeding on the Activity of the Reproductive Organs in the Rat, by Evelyn E. Hewer. The fresh thymus or an extract of this gland was added to the food of rats. It appears that male rats are more susceptible to the influence of thymus feeding than female rats. With moderate doses of thymus maturity is delayed. Feeding the parents with thymus causes marked delay of sexual maturity in the offspring, both male and female. The gestation period was not altered. With large doses of thymus, in the male the testis is structurally affected (illustrated). Animals in the hyperthymic condition appear to be sterile.—A Note on the Pigment of a Bermuda Nudibranch, Chrorodoris Zebra Heilprin, by W. J. Crozier, is of interest to zoologists.—Hydrogen Ion Concentrations Limiting Automaticity in Different Regions of the Frog's Heart, by Dorothy Dale and C. R. A. Thacker. Starting from the proposition, described as "generally accepted," that the different parts of the heart are of varying automaticity, and that the normal beat is due to the more rapid rhythmic contraction of the venous end of the heart, the contraction set up being propagated to the other parts in sequence, the authors experimented with the auriculo-ventricular preparation of the frog. They find that the limits of hydrogen ion concentration (C_H) for the origination of rhythm in different parts of the frog's heart are different. Other conclusions are drawn, but perhaps they may prove more interesting to physiologists than to practitioners of medicine.

España Medica.—This Spanish medical periodical is published in Madrid on the 1st, 10th, and 20th of each month (1 peseta monthly). It contains in its recent numbers articles on the Treatment of Chronic Cystitis by Iodine Vapour (Dr. Pedro Cifuentes, Jan. 20th); on the Diagnostic Value of Eye Symptoms (Dr. Enrique Barcones, Feb. 1st); and a series of contributions to a discussion on the state of the medical profession in Spain, "El Problema Médical en España." Jose Morales Diaz writes in the number for Jan. 20th an illustrated article on Winter Sports in the Sierra Guadarrama near Madrid. To judge from an article on Poverty in Madrid and its accompanying illustrations (Feb. 10th, signed Dr. J. de E.), the housing question in Madrid must be an urgent one.

Gaceta Medica del Sur, published at Granada (Spain) on the 5th, 15th, and 25th of each month (price, current number 40 cts.; back numbers 1 peseta), contains in its issue of Jan. 25th an important article by Dr. Victor Delfino on Rabies in the Argentine Republic, Increase of the Disease, and Suggested Prophylactic Methods, from which it would appear that the increasing prevalence of rabies in the Argentine Republic, and also in Brazil, is giving rise to much uneasiness in those countries among all persons interested in public hygiene and acquainted with the facts.

New Inventions.

A CLAMP AND CANNULA FOR DRAINING DISTENDED SMALL INTESTINE IN CASES OF OBSTRUCTION.

THE special clamp and cannula shown in the illustration facilitate emptying distended bowel in cases of intestinal obstruction. The cannula has a bore equal to that of a No. 12 catheter, and has a wire loop across one end which serves as a probe when it is introduced into the bowel, and afterwards prevents the bowel wall from blocking that end of the tube. Before use a piece of rubber tubing is attached to the other end of the cannula, and the blades of the clamp (each of which has a gap in the centre) are sheathed with rubber tubing. The instruments are used as follows:—The loop of bowel which it is proposed to puncture is raised between the left thumb and forefinger, and its apex, which should contain little but gas, is grasped with a stomach-clamp, so as to isolate about six inches of bowel. This is incised, at the part of its circumference furthest from the mesentery, by a stab with a knife having a blade of the proper width. If the wound is too small for the cannula, it may be enlarged when withdrawing the knife. The cannula is now introduced by first inserting the loop into the wound, and then rotating it through a quarter circle so as to dilate the opening and

enable the end of the cannula to be pushed on into the bowel. The clamp is then applied with its convexity towards the mesentery so as to grasp the cannula through the wall of the bowel, and also the edge of the latter, thus preventing any leakage. A gauze swab is now wrapped round the junction of clamp and cannula, the stomach-clamp is removed, and the bowel contents are allowed to drain into a vessel well away from the field of operation. This drainage can go on while the obstruction is sought for and relieved. Opinions differ as to how often it is necessary to empty distended bowel when operating for obstruction. But there are cases where it would be criminal, if it were possible, to cram distended bowels into an abdomen stretched almost to the bursting point, and my experience convinces me that in all cases where there is much distension the safety and comfort of the patient are promoted by a timely evacuation. I believe that the instruments here figured enable this to be done with a minimum of risk and delay. I have used them in one case, volvulus of a coil of adherent ileum, brought on by a fit of coughing a few days after an operation for acute appendicitis, and they answered admirably.

The instruments have been made at my suggestion by Messrs. Mayer and Meltzer, of Great Portland-street, London, W.

R. D. MOTHERSOLE, M.S., M.D. Lond.,
Bolton. F.R.C.S. Eng.

LONDON SCHOOL OF TROPICAL MEDICINE.—Owing to a grant from the Board of Education and the assistance rendered by Mr. Austen Chamberlain's Fund to the school, arrangements are now complete for the new course in tropical sanitation and hygiene which will be held twice annually in the school. The first session will open on May 1st, 1914. The course will include medical entomology, hygiene, bacteriology, public health, elementary surveying and sanitation, helminthology, and protozoology.

THE LANCET.

LONDON: SATURDAY, MARCH 21, 1914.

The University of London.

ALTHOUGH the proposals set forth in the Report of the Royal Commission on University Education in London may not be acceptable in all details, yet the broad general principles of this report provide a basis from which, in our opinion, a workable scheme can be evolved. The aspect on which we still attempt to concentrate the attention of our readers is whether or not the scheme proposed in the report, if adopted in its main principles, is calculated to produce a real university in London—an institution, that is, which shall not only complete the purely educational curriculum of the student, stamping him as qualified in certain professional, literary, or business directions, and moulding him by contact with his fellows, but shall also provide facilities for research and support the cause of learning by growing proportionately with the development of the world's wisdom. The question which at once becomes of supreme importance is how to deal with the external side of the present University, and how to arrange the granting of degrees to external students. There is no doubt that the chief reason for the failure of the University of London to achieve what was expected when it was reconstituted in 1898 is the existence among the students of internal and external sections whose interests are irreconcilable; while an added disability is the unworkable character of the organisation. There is danger that unless some solution of the difficulties thus caused can be found, such as will prevent their hampering influence upon the development of the best aspirations of the University, the work of Lord HALDANE'S Commission will be of no avail.

The system on which the granting of external degrees is founded is one under which, in the hands of the University of London, many great men have been educated, and it must be admitted that this system fulfils a need in the country for the present; and so long as this is the case it should, and will, continue. But it is based upon the view that the passing of an examination is the main preliminary to the taking of a degree, so that it becomes a matter of minor importance how or where the knowledge has been acquired. So long as this system holds a prominent place in the University of London, out of any belated reverence for old ideals, it is inevitable that students and the public at large will regard the granting of a degree as the most important work of the University, and will aspire to the degree rather than to the acquisition of knowledge and the training and discipline of the mind which should be regarded as by far the most important results of a university education and training. The essential attributes of a university consist, not primarily in the power of granting degrees nor in machinery for examining, but in teaching and in the expansion of the sum of human knowledge by the organisation and promotion of research. Much of the evidence which was laid before the Royal Commission was directed to this point, and on this follows the need for the modification of the external side of the University and for the creation of a local university, in which residence in London, and a training in a college or school of the university, should be required for graduation. The Commissioners are in complete agreement that external degrees should be abolished, and they have no doubt that in the broader nationa interest the sooner the demand for external degrees can be reduced to a point at which the degrees themselves can be discontinued without individual hardship the better it will be both for schools and teachers. We agree with their admission that it would not be possible in the present state of public opinion for the University to abandon completely the granting of degrees on the results of examinations alone, but as far as the Medical Faculty is concerned—and that is the one we are specially interested in—we cannot follow the reasoning of those who consider that a university discharges its responsibilities equally well by merely examining students as by training them. The scheme recommended in the Report of the Royal Commission is brought forward as part of a national policy intended to make all the universities in the country more accessible to the poor but capable student, and when this is carried out the Commissioners believe the demand for external degrees will dwindle and ultimately disappear. We are entirely of this view, but if the end of the external student is approaching naturally violent interference becomes unnecessary.

Here some points in the reconstruction of the University proposed by the Commissioners may be conveniently recalled. The Senate, it is suggested, should be constituted as a small body essentially lay in composition—that is to say, not composed of the teaching element so as to be in any way representative of particular interests; while there is to be withdrawn from it the present strong representation of the external side, large and important powers and duties are to be allocated to the Faculties which are to be composed of the teachers. All these things would have the effect of creating a governing body which could carry out big decisions with promptitude, and could make wise delegations of authority and responsibility in the necessary directions. Although the Commissioners recommend that candidates who have not studied in the colleges or schools of the University should be admitted to the general examinations for degrees, there are two groups of studies in which

they say that no hardship would arise from the exclusion of such candidates, whilst grave injustice to other students would be caused by their admission. These are the Faculties of Medicine and Engineering. The National Union of Teachers have strongly resented such a view with regard to the Faculty of Engineering, but the evidence on which the Commissioners have arrived at this conclusion as regards medicine was very clear and strongly put forward. Not only had they before them the view unanimously adopted by the Faculty of Medicine of the University "that the medical degrees of the University of London should be open only to those students who are students in the schools of the University," but the spokesmen from all the London medical schools but one, and a number of other witnesses, urged the abolition of the external degrees in medicine. It is, of course, an injustice, accepting the Commissioners' ideal of a university, to graduates who have studied in London in order to obtain the London degree, that the same qualification should be open to students who have never had any connexion with the University beyond sitting in its examination halls. Every school of medicine in the Kingdom is now connected with some university or other, and no hardship or injustice would be imposed by requiring that medical students should graduate in the university connected with the school in which they have been educated. Every university in the Kingdom, save the University of London under its present constitution, imposes the condition of residence and study in the university or in one of its colleges for a definite time as a necessary condition for admission to its medical degrees. Why should London as a centre of medical education be the only important city in the kingdom to be deprived of the advantages of a local university? The only argument for the maintenance of such a state of affairs is the needs of the students of the newer universities. These still exist, and must not be forgotten; but they will grow less daily, for it is clear that our young educational centres do not intend to leave them unsatisfied.

The main principles underlying the Commissioners' Report seem unassailable, but there are points of detail in which their recommendations are either impracticable or undesirable, and it is probable that if there had been a representative of the medical profession among the Commissioners, the scheme, in so far as it applies to medicine, would have assumed a somewhat different form. One of the most serious defects in the Commissioners' scheme is the proposed distinction of the educational institutions connected with the University into two sharply defined classes—incorporated colleges and schools of the University. The professors, associate professors, and readers in the former are to constitute the Faculties and to control the education and examination of students in the colleges, each college conducting its own examinations for degrees, whilst the principal teachers in the latter are to form Boards of Studies and are to be concerned in framing regulations for the general examination of candidates from all the schools within their jurisdiction. There is grave danger that one of the effects of such an arrangement will be to produce two internal sides in the University with somewhat divergent aims and ideals, and possibly very bitter feelings may be engendered. Since, moreover, the general examinations for students in the schools of the University are, except in medicine and engineering, to be open to external students irrespective of the place and mode of their education, there is the risk that the external side may be strengthened and that the present difficulties arising from the existence of two conflicting parties in the University will continue. This serious danger is one which we feel sure was never contemplated by the Commissioners. The distinction of the medical schools into two classes does not find favour with the present Faculty of Medicine, which has expressed the opinion "that it is undesirable to limit the scope of university influence by confining medical teaching of the university type in London to not more than three colleges. They propose "that any school or college that can provide instruction in conformity with the ideal of the University should be permitted and encouraged to do so," and the Faculty believes that "this end could be obtained with the least disturbance of existing methods by the appointment in each medical school of one or more professors of advanced medical subjects."[1]

The medical schools of the University of London are, and must be, in a different position from schools in other Faculties; the Commissioners recognise that the students in these schools, apart from those in the incorporated medical colleges, are to be internal students, and that there are to be University representatives on the governing bodies of these schools, so that the University will have a voice in the appointment of their teachers. Moreover, the condition is imposed, in the case of a medical school, but not in the case of a school in other Faculties—that "there must be a group of teachers for the school, each of them qualified by his attainments, his remuneration and the conditions of his work, for university teaching ..... and the group must be collectively adequate to give instruction covering all the non-clinical subjects of the course for a degree in medicine which fall within the purview of the school." If these recommendations are carried out the distinction between a medical constituent college and a medical school of the University will be very small. But the principal teachers in the schools are not to become members of the Faculty, but are to form a separate Board of Studies which, in framing regulations for the examinations for degrees for their students, will be asked to report to the Senate through the Faculty. This is unfair. One remedy was suggested by Dr

[1] THE LANCET, Dec. 6th, 1913, p. 1635.

E. GRAHAM LITTLE in a letter published in our columns in December last,[2] advocating that the Board of Studies should report directly to the Senate and not through the Faculty; but this would tend to set up a second internal side in medicine, which we are convinced is wrong in principle. It cannot be to the advantage of medical education in London to emphasise in this way the distinction between schools and constituent colleges. There should be uniformity in the educational course and in the examinations for the medical degrees of the University. In order to arrive at this result the Faculty should be constituted on less limited lines than those recommended in the report. A separate Board of Studies composed of teachers in the schools should not be set up, but all matters concerning medical education and medical degrees should be in the hands of a single strong Faculty, representative of all teachers and of all subjects which are within the scope of the Faculty, irrespective of whether these teachers are connected with an incorporated college or a school of the University.

Closely connected with this question of the constitution of the Faculty is the subject of the examinations which it is proposed to institute, and concerning these a word of warning is required. The suggested plan comprises the incorporation of three of the present medical schools into the University, the professors in each of which, aided by external assessors, would examine their own students for degrees, while a set of general examinations would be formulated for students from the unincorporated schools. Four distinct groups of examinations, it seems to us, would accordingly be set up, upon each of which the medical degrees would be conferred. Opinions differ on the question of whether or not teachers should examine their own pupils; there is much which can be said in favour of either view, and we do not propose to discuss the question now. But even those who admit that a student's work and training should be brought into consideration in the conferring of a degree, and hold that his teachers should take part in his examinations, cannot find it desirable to establish in this way four sets of examinations. It must be remembered that the medical degree carries with it a licence to practise, and that in this respect a medical degree differs from the degrees in other faculties. There surely should be uniformity in the examinational system, and all medical students in the University should pass the same tests whether they have been educated in a constituent college or in an unincorporated school of the University. In regard to these points the scheme of the Royal Commission certainly ought to be modified. Amendments of it in the directions we have tried to indicate would not be in any way antagonistic to, nor incompatible with, the general principles of the scheme as already defined by the President of the Board of Education. These modifications we consider to be essential in the interest of medical education, and with their inclusion the scheme of the Royal Commission should receive the support of all those who desire to see a real University in London.

[2] THE LANCET, Dec. 6th, 1913, p. 1688.

A Conference on Summer Diarrhœa.

THE conference on summer diarrhœa, which was held on March 11th at the Queen's Hospital for Children, Bethnal Green, once again focuses attention on the annually recurring problem of epidemic diarrhœa, its causes, modes of prevention, and methods of treatment. Although it appears to be a generally admitted axiom among public health authorities that diarrhœa in this epidemic form is largely preventable, it cannot be claimed that either cure or prophylaxis is based on a complete knowledge of its etiology or pathogenesis, indeed, its very classification is still labouring under a cloud of uncertainties. The only facts in connexion with the complaint which appear to be tolerably certain are firstly that breast-fed infants are more immune, both as to its incidence and as to its results, than those who are bottle-fed; and, secondly, that during the late summer and early autumn the largest number of cases occur. At the present moment, moreover, most of the time-honoured theories which have been held to explain the origin and causation of the disease are almost as doubtful as our clinical practice; they are either wholly or in part in a condition of flux. Nobody, for instance, accepts in its entirety ESCHERICH'S original theory of extrinsic or intrinsic infection as a complete explanation of the phenomena of an epidemic outbreak, although few would venture to maintain that infective organisms do not play an important part in the determination of the disease. Too many independent organisms have been held responsible for individual outbreaks or for sporadic cases to allow us to attach much importance to the claims of bacteriologists; moreover, it is now generally recognised that in infants infective processes are not confined to particular organs, as is frequently the case with adults, but that their incidence falls indifferently anywhere, causing the most active manifestation of symptoms in the most vulnerable direction. This naturally, in the case of infants, proves to be the alimentary system in the great majority of instances. Infection among infants is generally ushered in by an attack of diarrhœa, no matter what be the exact nature of the offending organism, and hence the specific identity of the germ of epidemic diarrhœa, if indeed there be one, has up to the present proved too elusive for the bacteriologist, and readers of THE LANCET are probably well acquainted with the somewhat disappointing findings of those who have been working diligently at the Rockefeller Institute to discover and isolate the guilty organism. In the February number of the *Annals of the Pasteur Institute* Professor

METCHNIKOFF gives a full account of the investigations which he has been carrying on for the last four years to solve some of the bacteriological problems in connexion with epidemic diarrhœa. The conclusions at which he arrives are of interest as showing that probably two varieties of bacteria are always concerned in the pathological process, one being proteus, the other being one of a considerable number of alternative types, the reciprocal reaction of the two varieties being symbiotic in character.

The unsatisfactory interpretation of the pathogenesis of epidemic diarrhœa among infants in terms of pure bacteriology induced CZERNY and FINKELSTEIN in Germany and ROTCH in America to search for other causes, and hence have arisen in their various degrees of elaboration the several theories of "food-injuries," propounded by these observers and their followers. It is needless to explain here exactly what these theories are, how they differ, or how they agree, but generally it may be stated that it is claimed that the food of an infant, though of irreproachable cleanliness and absolutely germ-free, is yet capable, if given in excess or in unsuitable form, of producing injuries in the digestive organs or to the processes of nutrition, whose symptoms are indistinguishable from those classified as epidemic diarrhœa. The old dogma that breast-fed infants are relatively immune to the ravages of summer diarrhœa finds ample justification in this food-injury theory, for there is some physiological adaptation of the natural supply of milk to the requirements of the breast-fed infant: and further, MEINERT has shown that the demand for increased fluids in hot weather is regulated by the breast, for as the result of numerous observations he has been able to prove that breast milk is thinner and weaker in summer than in winter. Among bottle-fed infants the increased thirst in hot weather is usually met by an increased consumption of the solid as well as of the fluid constituents of milk, hence the aggravated dangers of food-injuries among the artificially fed. The experiences of carefully conducted infant consultations, both in this country and abroad, certainly seem to show that the disproportionate incidence of epidemic diarrhœa among breast-fed and bottle-fed infants is largely a matter of control, especially when accurately measured quantities of dried milk are employed in the feeding. From the theory of food-injury to the theory of heat-injury was an easy and natural progression, and at the present moment, as all medical men know, the tendency is to attach great and increasing importance to the direct effects of heat in the determination of summer diarrhœas. Among investigators on these lines SCHLOSS, SALLE, LIEFMANN, LINDEMANN, FLÜGGE, and many others, have contributed evidence to show that there is a certain parallelism between the incidence of diarrhœa and the maximum temperature, and in this connexion it is of extreme importance to note that the maximum temperature obtaining in small and badly ventilated rooms by no means synchronises with that registered in the open air. The temperature within may show a retardation of some five or six hours, and often exceeds the temperature without by some 9° or more. The high temperature of small rooms, possibly also the increased humidity of the air, and its defective circulation, must clearly be taken into account as important factors in the etiology of diarrhœa. Injuries produced by heat may be of exactly the same nature as injuries produced by food, for heat may render an otherwise physiologically adjusted dietary relatively excessive.

It seems, then, that the problem of the etiology and pathology of summer diarrhœa can be solved neither by the bacteriological theory of ESCHERICH, nor by the food-injury theory of CZERNY, nor by the heat-injury theory of FLÜGGE and MEINERT. None of these theories singly and individually are capable of explaining the rise of the incidence in summer and the relative immunity of breast-fed infants, though taken in conjunction and in combination they may be regarded as affording an adequate solution.

It was hoped to discover by the convening of this timely conference at the Queen's Hospital the best means of securing the coöperation of the public, of the local health societies, and the medical officers of health in a concerted attempt to prevent the annual sacrifice of infant lives through epidemic diarrhœa. The authorities at the hospital recognise that, beyond providing a special ward for the reception and treatment of urgent cases and special facilities for the treatment of mild cases in the casualty department, they are powerless to stem the tide of this annual visitation. The medical committee of the hospital has drawn up full directions for the guidance of the resident staff of officers, a very necessary prevision in view of the constantly changing character of its *personnel*. The medical committee has further published in leaflet form certain simple rules for the treatment and prevention of the complaint. These are clearly stated and intended for wide distribution among the residents of the neighbourhood. The hospital authorities further earnestly invite local health societies to carry on an active educational propaganda, and beg local nursing institutions to follow up the advice given at the hospital by appropriate domiciliary visits. It is quite clear, however, that if these measures are to bear fruitful results the medical officers of health in the vicinity must lend all the official machinery of their departments in support of this activity on the part of the charity.

EAST LONDON NURSING SOCIETY.—The annual meeting of this society will be held at the Mansion House on Monday, March 30th, at 3 P.M., under the chairmanship of the Lord Mayor. Among those who will speak is Sir Thomas Barlow. The object of the society is to nurse the sick-poor of East London in their own homes by means of trained resident nurses.

Annotations.

"Ne quid nimis."

REGISTRAR-GENERAL'S NEW ANNUAL SUMMARY.

WITH the issue for 1912, which appeared early in the following year, the publication of the Registrar-General's annual summary as a separate document was discontinued. Early in each successive spring the appearance of this publication is eagerly sought for by local medical officers of health, because it contains authoritative statistics which are not otherwise obtainable, but which are nevertheless indispensable for the completion of their own annual reports. In these circumstances it occurs to us that those medical officers who do not receive direct returns from Somerset House will be interested to learn that, from the current year onwards, this indispensable information will be incorporated in the return for the December quarter of each successive year. The return (No. 260) for the last quarter of 1913 is now before us, and we are glad to note that it contains, in tabular form, the precise information referred to. And this, as a supplement to the quarterly returns for the last quarter of the year, will probably be published in future at an earlier date than is practicable under existing circumstances.

THE SUPPOSED DANGERS OF RIDING ASTRIDE.

THE Kaiser has issued an order expressing his wish that the wives of German army officers shall discontinue the practice of riding astride on horseback. A medical correspondent in the *Times*, in calling attention to this, asserts that any woman who habitually rides astride endangers her health and courts disaster. He further maintains that the strain accompanying the new seat tends to displace certain vital organs, or at least to render their supports insecure, and to foster malpositions and prolapse. The main reasons which are put forward by those who advocate riding astride for women is that there is less liability of the rider being dragged if her horse falls, and that the tendency to make the horse's back sore is minimised. No doubt with the old-fashioned style of riding habit and stirrup there was a very considerable risk of the rider being dragged if her horse fell, but with the modern safety skirt and safety stirrup this danger has practically disappeared. It is usually said that a good lady rider on a side saddle is in no danger of being thrown unless her horse falls. No doubt the seat is a very safe and secure one, but it is more difficult to learn to ride well on a side saddle, and with an indifferent rider the strain on the horse is certainly greater than when he is ridden astride. The matter is obviously one upon which authorities on the subject are not altogether agreed, and there are, no doubt, two sides to the question. In our opinion, however, the medical correspondent in the *Times* exaggerates the dangers of the new mode, and his positive assertions require some qualification. At first sight it might appear that the astride position, involving as it does some separation of the thighs, would cause relaxation of the muscles of the pelvic floor and so predispose to displacements. In the case of a rider with stirrups of the ordinary length and with a proper seat, there must be an amount of pressure on the pelvic floor more than sufficient in our opinion to counteract any relaxation due to the separation of the thighs. Further than this, whenever the saddle is gripped as it instinctively is, except when the rider is, so to speak, riding at ease, the contraction of the adductor muscles of the thighs is accompanied by a contraction of the muscles of the pelvic floor. At the very time then when a displacement appears to be most likely to occur, for instance in taking a jump or restraining a restive horse, the muscles maintaining the grip upon the saddle —namely, the adductor muscles of the thighs— come into action, and their contraction is accompanied by a corresponding contraction of the muscles of the pelvic floor, and any tendency to a displacement of the pelvic organs is in this way counteracted. By "the strain accompanying the new seat," we take it the writer means the muscular strain accompanying the grip of the knees on the saddle, and we see no reason to think that this would produce the results he anticipates, nor could we admit that simple separation of the thighs is accompanied by any tendency to displacements. Our objections to riding astride for women, if we were asked our opinion, would be based, not upon any possible danger of injuries to the pelvic organs, but upon the view that the seat is not nearly so secure a one for the average woman rider as that on a side saddle, and because the danger of being thrown is much greater. At the same time the risk of being dragged if thrown is certainly less, although, as we have pointed out, with a properly made safety habit and stirrup even on a side saddle this risk is a very small one. Any danger of injury to the pelvic organs when riding astride must be associated with the greater insecurity of the seat and the increased risk of being thrown, and not with the position *per se*, which we do not think in the case of a healthy woman is likely to have any injurious effect upon the pelvic organs.

PROPOSAL TO ESTABLISH TRAINED NATIVE MEDICINE MEN IN NATAL.

UNDER the laws passed by the old Natal Parliament it would seem that a most pernicious practice had grown up, under which the Government licensed certain natives, who had received no medical or nursing training of any sort, to practise medicine amongst the native inhabitants of the province. These natives, it is said, for the most part belonged to an ignorant and superstitious class, and to all intents and purposes were simply licensed witch doctors. Whatever may have been the reasons that led the Natal Government to license these men they can hardly be valid to-day. The Natal Medical Council was asked by a deputation from the Natal Missionary Conference, consisting of European and native clerics, including one or two medical missionaries, to consider some feasible means by which the present state of affairs could be remedied. The suggestion that the Government might possibly decide to abolish all native doctors' licences did not seem entirely to meet the approval of the members of the deputation, for they considered it necessary to concede something to the feeling of Natal natives that they should be doctored by their own people. The deputation itself favoured the licensing of natives trained on a standard lower than that of the European

practitioner, who should be allowed to practise amongst natives under European supervision, these licences being liable to cancellation by the Government or the Medical Council for sufficient reason. It was eventually agreed that a draft scheme should be prepared by the deputation and placed before the Medical Council for further consideration. Among the medical profession, however, in Natal there is a strong feeling that the time has arrived to abolish the recognition of native medicine men altogether unless they qualify properly as medical practitioners, and that the present opportunity is one that the Medical Council should seize for urging on the Government the same measure of protection for the profession in Natal that it enjoys in the other provinces. The abolition of the existing system is certainly desirable, but we fail to see a sufficient ground for replacing it by any such scheme as that proposed by the deputation.

THE PILGRIMS' WAY FROM HARDWAR TO BADRINATH.

MUCH has been done, especially of late years, by the British rulers of India to ameliorate the unwholesome conditions in which many of the natives of that country live. Already, also, a good deal of trouble is used to protect the people when carrying out their religious ceremonies, and to facilitate their pilgrimages by the improvement of roads, extension of railways, provision of roadside resting places, erection of temporary lodging accommodation at places crowded at times by pilgrims, and the supply of medical aid and hospital provision for the sick and dying. Recently, at the desire of the Indian Government, committees have been appointed in some provinces to inquire into the possibility of improving the existing sanitary arrangements at fairs and places of pilgrimage. In the United Provinces, for example, a committee of three members has been appointed—the Sanitary Commissioner, Major S. A. Harriss, I.M.S., an experienced member of the Indian Civil Service, Mr. G. F. Adams, together with a native non-official member of some local standing. This committee has already visited a number of places, and a report is to be issued containing a series of recommendations. One of the most important pilgrim routes—namely, that from Hardwar to Badrinath—was inspected last summer by Mr. Adams, who was assisted by Captain E. Bisset, I.M.S., Deputy Sanitary Commissioner. An account of this inspection is published by Mr. Adams in the *Indian Journal of Medical Research*, Vol. I., No. 3, lately issued, and forms extremely interesting reading. The pilgrimage is attended annually by 50,000 to 60,000 persons from all parts of India; but the bulk are poor agriculturists from Oudh, the eastern districts of the United Provinces, Rajputana, and the Punjab. Most of them are in the autumn of life, and many of them are women often physically unable to undergo the hardships of this long and difficult route. Some of the elderly women who can afford the expense are carried in baskets or creels on the backs of coolies hired in the plains. The start is usually made from Hardwar, where the pilgrim before setting out pays his vows to the sacred Ganges river, and then proceeds on foot to visit the temples of Vishnu and Siva, situated respectively at Badrinath and Kedarnath in the Himalayan district of Garhwal, and then returning to the nearest rail-head at Ramnagar, where a train service is available for return to their homes. The journey on foot takes six weeks and the distance to be covered is about 430 miles, mostly over rough and rugged roads, sometimes along the face of dangerous precipices in an unfamiliar country characterised by frowning mountains, some covered with eternal snows, and through mysterious forests that strike terror into the hearts of the timid pilgrims from the plains. The Government has improved the roads to a great extent, though something still requires to be done, but the nature of the country renders the long and toilsome route unavoidably difficult and dangerous. Though rapacious beggars, often disguised as fakirs, still infest the roads, the trouble has been much reduced of late by the police. According to Mr. Adams, the present pressing needs are largely of a sanitary kind, including the protection of the water-supplies used by the pilgrims; these are originally pure, but are much exposed to fæcal contamination. The provision of a conservancy staff of sweepers sufficient in numbers to keep clean the vicinity of the resting-houses and other places where the pilgrims spend a night is also greatly needed. Further medical aid is required at points along the pilgrims' way; for, as has been said, many are old and feeble, some fall ill, and nearly all are footsore, bruised, and weary at the end of each day's march. Sometimes they are overtaken by the rains, but notwithstanding this and other troubles, it is the Hindu custom to struggle on to the last gasp, as if impelled by fate, to reach their destination. It is no wonder, then, that diarrhœa, dysentery, and sometimes cholera take toll of these wayworn travellers; and when they reach the later stages of the journey and enter the colder altitudes (the temple at Badrinath is situated at a height of 10,400 feet) they are liable to suffer from respiratory diseases, including pneumonia. (There were 3000 deaths from cholera among the pilgrims in 1908.) The recommendations contained in Mr. Adams's report are likely to be of great service to future pilgrims, and will, no doubt, impress them with the idea that the Government is mindful of their welfare and wishful to alleviate, as far as lies in its power, the hardships and sufferings entailed by the pilgrimage.

THE INTERNATIONAL OPIUM CONVENTION.

THE White Paper on the International Opium Conference (Cd. 7276) which was issued the other day conveys the important information that up to Dec. 31st, 1913, the only Powers who had not signed the Convention were Austria-Hungary, Servia, Turkey, Uruguay, Bulgaria, and Greece, and that the three last-named Powers have declared that they would shortly sign the Convention. It appears, therefore, that the only Powers which have so far withheld their consent are Austria-Hungary, Servia, and Turkey, and it is to be hoped that they will yield to persuasion, and in the words of the resolution adopted at the second conference at the Hague "alter their negative or dilatory attitude," since their abstention "would prejudice most seriously the humanitarian ends sought by the Convention." It has been stated that at least one of these three Powers has now intimated its intention of coming into line with the majority, but at present this would appear to lack official confirmation. The terms of the Convention were stated and discussed in THE LANCET of Feb. 17th, 1912 (p. 441), and attention was drawn to the importance of the fact that Switzerland, Peru, and Bolivia—all of which

are interested in the production of one or the other of the drugs the traffic in which it is desired to control—were not represented at the first conference. Peru, however, ceased its "dilatory attitude" in July last year, Bolivia in June, and Switzerland in December, but without the cooperation of Turkey the effective suppression of the illegitimate traffic in opium and morphine would be extremely difficult if not impossible. Fortunately, there is good reason to believe that all the outstanding Powers will be brought into line at no distant date, and that all the Powers by whom the Convention has not been ratified will then proceed to ratification without further delay.

THE TREATMENT OF NERVOUS SYPHILIS BY INTRADURAL INJECTIONS OF NEOSALVARSAN.

IN the first number of the new *Annales de Médecine* (January, 1914) Dr. Paul Ravaut, of Paris, whose able researches on the cerebro-spinal fluid have brought his name prominently before the profession ever since his original papers with Widal and Sicard in 1900, describes his method of treating the nervous manifestations of syphilis by the intradural injection of neosalvarsan. It has become clear to the student of nervous syphilis that the ordinary clinical symptoms of tabes or cerebro-spinal syphilis, at however early a stage they are recognised, are merely the exteriorisation of a pathological process which has already considerably advanced ere it reveals itself in this way. Investigation of the cytological and chemical content of the cerebro-spinal fluid in the second stage of syphilis, before the patient himself complains of any nervous symptoms whatever, except possibly headache, shows that in a large proportion of cases the nervous system is already invaded; in fact, Dr. Ravaut places the proportion as high as 65 per cent. It is necessary merely to obtain an increase in the cell-content and the presence in pathological quantity of globulins to determine this invasion beyond cavil. It is at this period, further, that active treatment is calculated to combat the invasion with the greatest hope of success. To determine the actuality of the nervous disease in what may be called its latent phase and to make it disappear as rapidly as possible, just as one attacks the chancre itself, constitutes the true prophylaxis of syphilitic nervous affections. Dr. Ravaut sketches the various plans adopted by investigators to counteract the effects of the spread of the spirochæte to the nervous system, and profiting by his own and others' experience describes in detail the technique at present practised by him in latent or frank nervous syphilis with encouraging results. He uses a hypertonic solution of neosalvarsan in distilled water; its strength is 6 per cent. Each drop of this solution contains 3 milligrammes of the drug. The solution is made immediately before use by dissolving 0·6 gramme in 10 c.c. of distilled water. From one to four drops are injected at a time. The needle he recommends is of platinum. The last centimetre of its length is drawn out to a finer bore than the main part of the needle, so that the puncture in the dura may be as minute as possible. To the needle a syringe is fitted; this is charged with the exact quantity of neosalvarsan solution to be injected. Lumbar puncture is performed in the usual way and a few cubic centimetres of the fluid allowed to escape from the needle, to which the loaded syringe is then applied, and gentle aspiration made so as to draw some fluid into the neosalvarsan solution; the whole is then slowly injected into the subdural space. After the injection the patient is placed in the Trendelenburg position to ensure the passage of the hypertonic solution upwards in the spinal axis. Dr. Ravaut is in the habit of giving some four or more injections at varying intervals. In his paper he supplies the clinical details of nine cases thus treated, which represent a total of 63 injections performed in this fashion. The results have been very good, judged both by subjective and objective standards. They are discussed in a critical spirit by the author; there is no vaunting of the method as a panacea; and accordingly the impression left with the reader is the more favourable. More evidence is, of course, called for, but so far it may be said without exaggeration that, as a result of these and other recent experiences, the prophylaxis of syphilitic disease of the nervous system, and its treatment when the outward manifestations of the affection are already obvious, have reached a more hopeful stage than has hitherto been attained.

IS COOKING AN ERROR?

ACCORDING to the views held by some authorities in regard to certain vital constituents of food, cooking would appear to be opposed to physiological requirements. The isolation of that curious substance vitamine has led to the conclusion that its presence in foods is of great importance, and that its removal from foods is connected in some way, not at present quite clear, with the occurrence of the so-called deficiency diseases, amongst which may be reckoned rickets, scurvy, osteomalacia, and beri-beri. But vitamines are destroyed at temperatures largely over-reached by cooking processes. If vitamines are a necessity in dietetics the conclusion is well-nigh reached that we should eat our foods raw or uncooked. This injunction would, of course, be most distasteful to the majority of persons, especially in the case of animal food. It is interesting, however, in this connexion to remember that cooking does not increase the digestibility of animal food. The rôle of cooking is really to make the meat attractive, to develop flavours, and to give it some pretensions to æsthetic qualities. Furthermore, cooking preserves animal foods and to some extent sterilises them. The discovery of vitamines presents therefore a dietetic problem of considerable importance, if all that is claimed for these substances is well founded. There are not many articles in stereotyped diet which are not cooked before consumption, and this applies to vegetable as well as to animal foods, while most of the foods rich in vitamines are cooked, as, for example, meats, cereals, the pulses, potatoes, and carrots. Even bread made from rich vitamine-containing wheat would be vitamineless after cooking, since the temperature reached in the oven is much higher than that which has been shown to destroy this so-called vital principle. Incidentally, this observation has an obvious bearing on the controversy as to whether whole-meal bread (stone-rolled flour) is more nourishing than white bread (milled flour). If cooking destroys the vitamines of the whole-wheat berry the use of whole-meal bread would offer no advantages over that of the white loaf. These are questions which deserve careful attention, for the above considerations appear to place the contentions of some of our dietitians in a rather absurd position. On the one hand the majority of our foods are cooked, and on the other we are told that the process of cooking imperils the activity of a

substance present which is essential to the assimilability of food. If we accepted the position laid down we should have to conclude that there is something radically wrong with our methods of preparing food which seemingly ought to have favoured a general distribution of "deficiency diseases." A letter in another column has prompted these remarks.

THE COMPLIMENTARY DINNER TO SURGEON-GENERAL GORGAS.

AT this dinner, which will be held on Monday next, March 23rd, at 7.45 P.M., at the Savoy Hotel, we understand that the Archbishop of Canterbury and the Lord Chancellor, Lord Haldane, will be present, as well as the Colonial Secretary, Mr. Lewis Harcourt, and Viscount Bryce. The dinner is supported by Sir Rickman Godlee, President of the Royal College of Surgeons of England; Sir Francis H. Champneys, President of the Royal Society of Medicine; Sir David Ferrier, President of the Medical Society; Dr. W. A. Hollis, President of the British Medical Association; Sir Havelock Charles, President of the Society of Tropical Medicine and Hygiene; Sir William Osler, Regius Professor of Medicine, Oxford; Sir Clifford Allbutt, Regius Professor of Medicine, Cambridge; Surgeon-General Arthur W. May, Director-General of the Naval Medical Service; Sir W. Launcelot Gubbins, Director-General of the Army Medical Service; Professor W. J. R. Simpson and Dr. F. M. Sandwith, of the London School of Tropical Medicine; Sir Ronald Ross, Sir James Reid, and Sir Frederick Treves. The chair will be taken by Sir Thomas Barlow, President of the Royal College of Physicians of London, and the organisers of the dinner are particularly anxious that representative medical men should be present to do honour to their distinguished American guest. All communications should be addressed to Mr. J. Y. W. MacAlister at the house of the Royal Society of Medicine, 1, Wimpole-street, London, W. The dinner tickets are 25s., and cheques should accompany applications.

"DICHOTOMY" IN THE UNITED STATES AND IN CANADA.

THE dodge of dividing fees secretly between the general practitioner and the operating surgeon was stated publicly not long ago to be rife in the United States and Canada. The question was discussed at the time with an acrimony that, despite some weak evidence, went far to prove the custom to be in vogue; and now the matter is again on the tapis. At the twenty-third annual meeting of the Western Surgical Association held in St. Louis on Dec. 19th and 20th, 1913, Dr. Jabez N. Jackson, of Kansas City, Mo., the President, in his presidential address, took "dichotomy," as the reprehensible practice is called, for his main subject. His objections to the practice were the obvious ones, and were formulated in the obvious manner. He said that dichotomy induced family practitioners to betray the confidence of their patients who were referred to surgeons, not necessarily the most competent, not those who offered the greatest possibility of the saving of life or the preservation of health, but to men who paid coin to get hold of their victims. By this practice the patients were robbed, while it penalised honesty in those who sat idly by rather than make shameful bargains, allowing less competent competitors to buy their practices. Finally, and perhaps worst of all, it led to many unnecessary operations with their attendant risk and expense. "In all it was a betrayal of trust, encouraged dishonesty, bred incompetency, and should, in short, be regarded as a crime." The indictment is not too severe for the offence—in fact, the professional degradation of "dichotomy" can hardly have required pointing out. What is needed is a remedy—viz., the public exposure of known offenders, and this is the course that is now being widely discussed and forcibly advocated. In Canada the practice of secret division of fees was stigmatised no less harshly some two years ago at the annual meeting of the Ontario Medical Association by Dr. Herbert A. Bruce, of Toronto. Dr. Bruce appeared to admit that the custom existed by the terms of reprobation which he considered it his duty to use. Enough words have been wasted in describing the professional enormity of the offence; we should now like to see some of the offenders named and shamed. Surely if the sin is so common many of the sinners must be known.

MEDICAL PROTECTION.

THE annual report of the London and Counties Protection Society, which will be presented to the annual meeting of the members on March 25th, discloses once more a record of steady growth and of increasing usefulness. Since the last annual meeting the society has lost its President, Sir Jonathan Hutchinson, who had filled that office during the whole 22 years of the society's existence. In his place Dr. G. A. Heron has been elected, and has resigned the treasurership in consequence, to which Mr. C. M. Fegen has been elected in his stead. The report contains cases illustrative of the defence work done on behalf of the members. Interesting as many of these cases are, there is a strong similarity between the events of one year and another; and they point very strongly once more the moral which impresses itself instantaneously on all who read them—namely, the imperative necessity of an organised and coöperative system of legal defence for the medical profession. With increasing experience of the new system inaugurated in 1911 the financial position of this society is growing rapidly stronger and more assured. It will be remembered that in that year the constitution of the society was altered in such a way as to give the council power to insure members up to an amount of £2000 in any one case and up to an aggregate of £22,000 for the whole society against costs and damages given against them. Previously the society had insured members only against the actual costs of their defence. It is evident from the financial statement that the increase of the subscription from 10s. to £1 per annum has so far been more than adequate to cover the extra risk insured; and the consequence is that the reserve funds of the society are accumulating rapidly. This is, of course, a source of great strength, and if the favourable experience of the society in respect of this part of its work continues it will be possible either to reduce the subscription which the members pay or to terminate the arrangement whereby the society reinsures with Lloyd's the whole of its annual risk of adverse verdicts beyond the first £2000, thus saving the annual premiums paid to cover this contingency. As previously, the society was able to recover a substantial proportion (nearly £900 out of £2300) of its

law costs from defeated adversaries. The whole of the accounts and balance-sheets reveal a promising condition.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

THE annual Congress of the Ophthalmological Society of the United Kingdom will be held, under the presidency of Mr. F. Richardson Cross, on Thursday, Friday, and Saturday, April 23rd, 24th, and 25th. The meetings will take place at the rooms of the Royal Society of Medicine, 1, Wimpole-street. On Thursday and Saturday mornings papers will be read from 10 A.M. till 1 P.M.; on Friday morning there will be a discussion, to be opened by Mr. E. Treacher Collins and Lieutenant-Colonel H. Herbert, on Post-operative Complications of Cataract Extraction. The annual business meeting will be held at 4 P.M. on Thursday, and at 5 P.M. on the same day Professor Uhthoff, of Breslau, will deliver the Bowman lecture on Experiences and Considerations on the Importance of Ophthalmology in Brain Surgery. Members of the society and their friends will dine together on Thursday evening. It has been arranged to hold a clinical meeting on Friday afternoon at the Central London Ophthalmic Hospital, Judd-street, W.C. During the congress a museum of objects of ophthalmic interest will be exhibited in the Bowman library at the Royal Society of Medicine. Communications respecting the scientific meetings should be addressed to Mr. G. Coats, 50, Queen Anne-street, W., respecting the museum to Mr. M. S. Mayou, 30, Cavendish-square, W., and respecting the dinner to Mr. Elmore Brewerton, 84, Wimpole-street, W.

NAVAL AND MILITARY MEDICINE AT THE ANTIPODES.

THE British public are not likely to forget the patriotism so vigorously demonstrated by our Colonial kinsmen during the war in South Africa, and it is not too much to say that our home military authorities found a good deal to learn from the capable and energetic methods of administration of the daughter States. In Australasia military training is now compulsory on all male citizens; from the age of 12 to 18 in cadet corps, and from 20 to 26 as citizen soldiers; in New Zealand the liability ceases at 25. Colonel James R. Purdy, Director of Medical Services, New Zealand, makes some very pertinent observations in a book which he has just published and in which an address delivered by him at the Australasian Medical Congress of 1911 is reproduced. Colonel Purdy urges that only the very best youth of the country should be taken for the army. There is no sense in training up a soldier to fight, and when the day of battle comes finding he is unable for physical reasons to do so. He has satisfied himself that only men of the very highest stamp of physical development can possibly stand the stress of modern methods of warfare; he considers that 40 per cent. of the youth of Australasia are for some cause or other unfit for efficient military service, but believes that in a few years, owing to the great improvement in physique effected by physical training, this percentage of unfitness will be very greatly reduced. He insists on the need for all-round military training for the army medical officer. For the actual treatment of sick and wounded in war civilian practitioners can always be obtained in large numbers, but for the administrative duties of the medical service long and varied training is necessary. Everyone knows and acknowledges the importance and the difficulties of the supply department in war; but it has only recently been realised that it is as difficult a problem to get a wounded man down to the base as to get a dead bullock up to the front. In war time it is not the performance of brilliant surgical operations, nor the successful treatment of serious diseases, that constitutes the chief value of the medical department; this depends on the prevention of disease, the rapid evacuation of sick and wounded, and the immediate treatment of minor ailments and injuries, so as to get the men back to the fighting line as quickly as possible. All this requires careful organisation, and Colonel Purdy mentions that New South Wales was the first country in the world to possess a properly organised, properly equipped medical force that was the admiration of all who saw it working in South Africa. In another paper Colonel Purdy, speaking from his experience in the South African war as to water supply in the field, states his firm opinion that the best and most rational system is to encourage every man to boil water for himself. If made into tea, as was done by the Australians in the war, the practice is both effectual and popular.

OCEANOGRAPHY AND PUBLIC HEALTH.

DURING some extensive oceanographic investigations, conducted mainly with the object of localising distant icebergs by observations upon the electro-conductivity of sea water, Dr. Myer Coplans, of Leeds University, happened by chance upon certain facts which may have an important bearing on the health of passengers on Atlantic liners. By means of a compensated conductivity salinometer of his own invention Dr. Coplans estimates the electric conductivity of the water 18 feet below the surface, and is thus enabled to deduce the degree of its salinity. Whether this method will provide an infallible indication of the neighbourhood of icebergs is not yet proved; if it does, the travelling public will have much to thank Dr. Coplans for. While measuring the electro-conductivity of the water in the Gulf of St. Lawrence he found that near the mouth of each tributary river there is a rise in the salinity of the water. The water of Lake St. Peter and above was much more pregnant with saline products than that of the tributaries below Three Rivers and Quebec. This result he ascribes to the fact that the sewage from Ottawa and Montreal is largely deposited in the broad expanse of Lake St. Peter. The importance of this resides in the fact that the ocean-going steamships plying to and from Montreal take their fresh water from this place. If Dr. Coplans's contention that this water is in reality heavily contaminated with sewage is correct it is obviously a matter of the greatest importance that ship-owners should know this and act upon it. It is to be hoped that the authorities will take steps to ascertain whether this water is or is not bacterially infected, and that meanwhile it will be treated as under some suspicion. That this question of public health should arise out of researches undertaken for the detection of invisible icebergs at sea is only another instance of the unexpected gifts with which science proverbially rewards now and then her patient followers. The significance of these observations in the St. Lawrence

would almost certainly have escaped any non-medical oceanographer.

THE MEDICAL AND THE DENTISTS REGISTERS, 1914.[1]

THE current issue of the Medical Register shows several notable improvements. A slight change of shape, increasing the width of the book in proportion to the height, together with the substitution of the customary initials of qualifications in place of the truncated words hitherto used, and the "running on" of the qualifications in place of devoting a separate line to each, has made possible an average gain of 15 names to a page, thereby reducing the thickness of the book by an inch. The names are now printed in black type, making the task of reference much more speedy. These improvements are found also in the Dentists Register. Table C, giving the meetings of the Council since its foundation in 1858, is omitted. Regarding the Register itself, there were 1168 new registrations and 79 restorations to the Register in 1913, which after deducting 746 removals leaves a net gain of 501. These removals were respectively as follows: Died, 651; on ceasing to practise, 2; dropped for non-notification of change of address, 88; struck off under Sections XXVIII. and XXIX., 5. We have made as careful a search as time and opportunity would allow, and have failed to light upon an inaccuracy. Doubtless there are some, but they are assuredly few and far between. In THE LANCET of June 4th, 1910, we commented in a leading article on the thorough revision of the Register then accomplished and the absolute necessity for keeping it up at whatever cost of labour. It is satisfactory to think that the efforts then made are not to be allowed to become fruitless for lack of attention.

SANITARY AFFAIRS AT ILFORD.

ON several occasions we have called attention to the long-drawn-out dispute between the medical officer of health of Ilford and the Ilford district council. When we last referred to the subject the council had failed to persuade the Local Government Board to acquiesce in the removal of Mr. C. F. Stovin from his post. We now regret to learn that on March 10th the district council stated that information had been received from Whitehall announcing that the Local Government Board had reluctantly come to the conclusion that they could not properly withhold their consent to the dismissal of Mr. Stovin. The general feeling amongst the largest body of ratepayers of Ilford does not, we learn, support the action of the council in thus dismissing an able and zealous officer, and it appears that a new local organisation has come into being with a view to effecting reform in the *personnel* of the district council. The one satisfactory feature of this most unsatisfactory business has been that the Ilford Medical Society has loyally supported Mr. Stovin throughout the dispute. We imagine that the Ilford district council, so long as its constitution remains as at present, will not find it an easy task to fill the vacancies created in the department of the medical officer of health.

[1] The Medical Register. Printed and published under the direction of the General Council of Medical Education and Registration of the United Kingdom, &c. London: Published for the General Medical Council by Constable and Co., Limited. 1914. Pp. 1154. Price 10s. 6d.
The Dentists Register. Printed and published under the direction of the General Council of Medical Education and Registration of the United Kingdom, &c. Same publishers. 1914. Pp. 130. Price 3s. 4d.

"THE FAMILY ENCYCLOPÆDIA OF MEDICINE."

THE medical men whose names have been associated with the serial publication of the "Family Encyclopædia of Medicine" proceeded to appoint, after their meeting on March 11th, a subcommittee to deal with their interests. We understand that as the result of the representations of this subcommittee the Amalgamated Press have withdrawn all advertisements in the press containing the names of medical men, and have given a written undertaking that the names will be deleted from the fourth and later issues of the serial publication, and that a majority of the illustrations will be suppressed. A verbal promise has been received that the names will not appear at all in the bound volume, and a further assurance is expected with regard to the outside cover of the publication. The explanations made by certain of the medical men have been accepted by the authorities of the Royal College of Physicians of London, and it is not at present proposed to take any legal action.

OWING to the complimentary dinner to Surgeon-General Gorgas to be held on March 23rd the meeting of the Medical Society of London fixed for that date has been postponed to Monday, March 30th, at 8.30 P.M., when the following papers will be read: Three Years' Sanatorium Experience of Laryngeal Tuberculosis, by Sir StClair Thomson; and Tonsils and Adenoids in Children: a Plea for Fewer Operations, by Mr. T. B. Layton.

WE published last week the names of certain Fellows of the Royal College of Surgeons of England who intend to offer themselves as candidates at the forthcoming election for the Council. To these names there may now be added Mr. F. F. Burghard, Mr. J. B. Lawford, and Mr. P. Macleod Yearsley.

THE death of Surgeon-General Sir Arthur Mudge Branfoot, I.M.S., who recently retired from the Presidency of the Medical Board of the India Office, occurred on Tuesday last at Folkestone.

Dr. H. Macnaughton-Jones has been elected an honorary member of the Belgian Society of Gynæcology and Obstetrics.

ABERDEEN SICK CHILDREN'S HOSPITAL.—The thirty-seventh annual meeting of the Aberdeen Sick Children's Hospital was held in Aberdeen on March 6th. The treasurer's report showed a total ordinary income for the year of £2276 18*s.* 11*d.*, or £256 more than the previous year, but £1083 2*s.* 2½*d.* short of meeting the ordinary expenditure for the year. The directors have reluctantly resolved to take the sum of £656 0*s.* 8*d.* out of legacies received and place it to the credit of the revenue account, thus reducing the deficit on the year's working. The ordinary expenditure showed an increase over 1912 of £238 11*s.* 9½*d.* With regard to the building fund the sum of £21,000 has been received in cash and promises, over £13,000 having been paid. The total number of cases treated during the year was 3237, of which 1033 were in-patients and 2204 out-patients. In the year 1893 the total number of in-patients treated was 641, in 1903 it was 767. While the number of cases had thus increased by 60 per cent. the increase in the subscriptions since 18*93* was only 30 per cent., and since 1903 the income had only risen 0·7 per cent., while the increase in cases treated was 34 per cent.

THE SUPPRESSION OF REVERSE CURRENT IN X RAY COILS.

BY REGINALD MORTON, M.D. TOR., F.R.C.S. EDIN.,
PAST PRESIDENT, SECTION OF ELECTROTHERAPEUTICS, ROYAL SOCIETY OF MEDICINE.

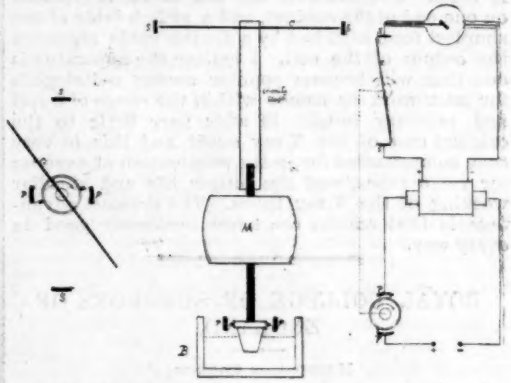
THE evils of inverse current are unpleasantly familiar to all radiologists, and it is probable that the presence of this undesirable element is responsible for more spoilt plates, ruined tubes, and other disappointments than any other single cause. Curiously enough, there has been little or no effort made by the makers of X ray coils and interrupters to diminish the amount of this reverse current, but rather the other way. Some ingenuity has been expended in the design of interrupters, but unfortunately in the wrong direction. The great idea seems to be to raise the rate of interruption to the highest possible limit, and they have been helped in this by the high voltage of current-supply that is rapidly becoming universal. The result is that in showrooms and exhibitions a coil working through a mercury "break" gives a discharge in air that is almost indistinguishable from that seen when an electrolytic interrupter is used. This is very impressive to those who do not know better, and, needless to say, the intending purchaser is not told that a large portion of the discharge is made up of reverse current, and, for X ray purposes, worse than useless. He is made to understand that a valve tube must be used in circuit always, and accepts this as an essential part of the outfit. Incidentally a healthy demand is created for valve tubes, which doubtless is an advantage to the makers and dealers.

It would be out of place here to enlarge on the technical aspect of this question, and it is sufficient to say that recent developments of X ray plant, where they include a mercury interrupter, have been on quite wrong lines, and so far from helping this branch of investigation they have been a distinct hindrance. To get the best results in X rays the current through the tube must be uni-directional, and the voltage of the impulses must be as high as possible. The modern tendency is to increase the reverse current at the expense of the direct current we want; this is done in opposition to all electrical and magnetic principles, and is also opposed to efficiency in the work for which the apparatus is intended. Within the range of most of his work a mercury interrupter is the most useful one to the radiologist; it has its limitations, and when we try to make it behave like one of the electrolytic variety we destroy many of its advantages, for which we gain nothing. If the intending purchaser of an X ray outfit of this kind will remember that there is only one test that is of any value—the amount of current the coil will pass through a normal tube with all the reverse current suppressed—and insist on a guarantee based solely on the uni-directional output, makers and dealers will soon be brought to their senses with advantage to all concerned.

The trouble would not signify so very much if the usual device—the valve tube—were at all satisfactory. I have tested and worked with every sort of valve tube I have been able to obtain, and I think everyone who has had a large experience with them will bear me out when I say that it is doubtful if a more erratic and inefficient instrument exists. I admit that some have been less bad than most of the others. I have not seen any that might be called really good, and at their poor best they introduce one more variable and uncertain factor in a problem that has too many already. That radiologists continue to use valve tubes proves no more than that their apparatus is imperfect and that the valve tube is the only method open to them for dealing with the reverse current.

To find a reliable method of suppressing this inverse current is a problem that has interested me for some time, and while what seems to be the best method occurred to me some years ago, for various reasons it has not been developed until quite recently. It is applicable to any form of mercury break in which the contacts are directly connected to the shaft of the motor, or to the jets if there are fixed contact blades, as in the ordinary jet break: it is not easily applicable to breaks of the "Sanax" type as at present constructed. It has the great advantages that there is nothing to wear out, and consequently nothing to renew; the conditions are constant at all times, and no appreciable resistance is added to the circuit during the passage of the current at "break." The inverse current—the current at "make"—is completely suppressed.

The scheme is shown in the accompanying diagram. In the centre the general arrangement



is shown in elevation. The break B is driven by the motor M, and to the upper prolongation of the spindle of the latter is attached an ebonite shaft which carries the wire connector C which just clears the two segments S placed in one side of the secondary circuit. The break in the primary circuit and the connector in the secondary circuit thus rotate together, and are effectually insulated from each other by the ebonite shaft. It is also evident that the connector and break can be so adjusted to each other that the secondary circuit remains open except at the moment of "break"—the only time it need be closed. Turning to the left of the diagram we see the jets (rotating clockwise) just about to impinge on the primary contact P, P, and the secondary circuit is open at the two gaps between the ends of C and the segments S_1 S_2. In practice the total gap is from 6 to 8 inches, which is too much for the secondary current at "make" to get across. This reverse current dies out before the connector C gets near to the segments S_1, S_2, and the X ray tube remains unaffected by it. The connexions in the primary and secondary circuits are shown on the right of the diagram, and if it is borne in mind that the centres joined by the dotted line represent the rotating parts in both

circuits, the relative position of the essential parts at the moment of "break" will be easily understood. Below the jets are just leaving the primary contacts P P, and above the connector C is coming into line with the segments S S, allowing the secondary current to flow through the tube with practically no resistance. The scheme may be described, in other words, as a combined interrupter for the primary and secondary circuits, so set that as one circuit is closed the other is open.

The simplicity and efficiency of the device will be apparent to anyone acquainted with X ray apparatus, and the wonder is that it has not been put into use before. The scheme is similar in principle to the mica valve of Mr. Leslie Miller, but in this case the wide air-gap is preferable as a resistance to the mica disc, and it admits of more complete closure of the circuit at the moment of "break." My device has been patented for the benefit of Messrs. Newton and Wright, who have borne all the trouble and expense of developing the idea in practical form.[1]

The apparatus is mounted in a closed cabinet with the coil on top and the break and its attachments inside. Needless to say, any coil can be fitted by merely adapting the supports upon which it rests. The controls for the break are placed on one end of the cabinet, and a switch table of the simplest form attached by a flexible cable regulates the output of the coil. I believe the apparatus is one that will become popular among radiologists for such work as comes within the range of a coil and mercury break. It adds very little to the original cost of the X ray outfit, and this is very soon compensated for in the elimination of expense for valve tubes, and the longer life and steadier working of the X ray tubes. The greatest advantage is that results are more uniformly good in every way.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

AN ordinary meeting of the Council was held on March 12th, Sir RICKMAN GODLEE, the President, being in the chair.

A letter was read from Mr. Jonathan Hutchinson resigning his seat on the Council on account of pressure of hospital work.

The PRESIDENT stated that the vacancy thus occasioned would be filled at the annual meeting of Fellows in July.

A report was read from Mr. C. H. Golding-Bird on the proceedings of the Central Midwives Board during the past year. The best thanks of the Council were given to Mr. Golding-Bird for his services as the representative of the College on that Board, and he was re-elected for another year.

Sir Henry Morris was re-elected for one year as the representative of the College on the General Medical Council.

A letter was read from Mr. D'Arcy Power reporting his attendance before the Royal Commission on Venereal Diseases to give evidence as requested by the Council.

Fixity of Tenure of Medical Officers of Health.

The PRESIDENT stated that in accordance with the wish of the Council expressed at their last meeting he and the Vice-Presidents had received at the College some medical officers of health and had conferred with them on the subject of fixity of tenure. It was resolved to send the following letter to the President of the Local Government Board:—

"The attention of the Council of the Royal College of Surgeons has been directed to the desire of the medical officers of health under the Local Government Board to secure *fixity of tenure* and some definite system of *superannuation and pensions*, and they have been asked to support the endeavour which is now being made to bring this matter under the consideration of His Majesty's Government.

The Council are aware that this is no new question, and that it may be considered from more than one point of view. They have endeavoured to make themselves acquainted with the arguments put forward on both sides, and the facts as far as they have been able to ascertain them.

Though feeling a special interest in the diplomates of the College, the Council recognise that if the request cannot be supported on public grounds it is not worthy of consideration. It is to this point of view, therefore, that they have exclusively directed their attention.

It appears to the Council that there must be something wrong with a system under which the guardians of the public health hold appointments terminable at short notice under those whose interests are likely to be interfered with by the exposure of unsanitary conditions, or the suggestion of sanitary improvement. Yet this is what the present system in many districts involves. The Council have been impressed by the confession of men occupying important positions, that they are conscious of being influenced in the discharge of their duties by the fear of losing their appointments.

Moreover, it is often stated that the medical profession is becoming more and more alive to the unattractiveness of public health appointments, even those commanding good salaries where the tenure is insecure and there is no system of superannuation. It appears likely, therefore, that the quality of the applicants for them will deteriorate.

Considering the vital importance of the matter at stake the Council, whilst fully recognising the weight of the arguments adduced against the proposed change, which they have endeavoured to consider impartially, cannot think that they are strong enough to outweigh those in favour of the request of the medical officers of health.

The Council, therefore, feel that it would be for the advantage of the community if security of tenure with a corresponding system of superannuation were granted to medical officers of health under the Local Government Board, and they venture to express the hope that it may be possible for His Majesty's Ministers to give favourable consideration to the representations which are now being made to them on these questions."

The diploma of Member was conferred upon the following two gentlemen who have passed the requisite examinations and have now complied with the by-laws of the College: John Harold Cascaden, M.D. Toronto, Toronto University and London Hospital; and Thomas Trench Thompson, M.B., B.S. New Zealand, Otago University.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the twenty-second meeting of the Royal Commission on Venereal Diseases evidence was given by Mr. D'Arcy Power, surgeon and lecturer on surgery at St. Bartholomew's Hospital, and one of the representatives before the Commission of the Royal College of Surgeons and the Royal Society of Medicine.

Mr. D'Arcy Power said that from the surgeon's point of view he looked upon gonorrhœa as the more serious disease for the individual and syphilis for the race. In general surgery the effects of gonorrhœa were far-reaching, and it was an error to teach that it was a local and curable disease. Syphilis seemed to Mr. Power to be even more dangerous to the State than to the individual. The expectation of life was materially shortened for a person who had been infected with syphilis; the immediate danger extended to the second generation, and the vitality of the stock seemed diminished for several generations. Syphilis gave surgery a large amount of work. It predisposed, Mr. Power thought, to cancer and tubercle. The particular danger of the disease lay in the fact that the subsequent effects bore no necessary relation to the severity of the initial lesions.

Mr. Power thought that a diminution in the incidence of syphilis would best be brought about by better instruction of the medical student, and that each general

[1] The apparatus is being demonstrated this evening (Friday, March 20th) at the Electrotherapeutic Section of the Royal Society of Medicine.

hospital ought to establish a special department under the control of the senior medical officer. The department should be chiefly an out-patients' clinic and should be held in the afternoon or in the evening. A few beds might be provided, but the essence of successful treatment in syphilis was early diagnosis and prolonged attendance. The department should be thoroughly equipped with a sufficient staff of pathologists and with the necessary remedies. The expense would no doubt be considerable, but Mr. Power thought that the State would be more than repaid. He believed that the establishment and use of such departments would gradually educate the public to appreciate the danger and thereby diminish the risk. Mr. Power did not think that any organised attempt to educate the public with regard to venereal diseases was desirable; he would rather trust to the gradual growth of education through the medical profession. Mr. Power was not in favour of notification of venereal diseases, at any rate not for the present.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 8620 births and 5338 deaths were registered during the week ended Saturday, March 14th. The annual rate of mortality in these towns, which had been 15·0, 15·1, and 15·8 per 1000 in the three preceding weeks, declined to 15·4 per 1000 in the week under notice. During the ten weeks of the current quarter the mean annual death-rate in these towns averaged 16·6, against 16·3 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 5·2 in Wimbledon, 6·3 in Ilford, 7·4 in Leyton, 8·2 in Hornsey, and 8·4 in Eastbourne, to 21·4 in Reading, 22·0 in Stockton-on-Tees, 22·1 in Oldham, 22·7 in Swansea, and 22·9 in South Shields.

The 5338 deaths from all causes were 159 fewer than the number in the previous week, and included 441 which were referred to the principal epidemic diseases, against numbers rising from 397 to 425 in the three preceding weeks. Of these 441 deaths, 143 resulted from whooping-cough, 113 from measles, 74 from infantile diarrhœal diseases, 67 from diphtheria, 31 from scarlet fever, and 13 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·3, against 1·2 per 1000 in each of the two preceding weeks. The deaths attributed to whooping-cough, which had been 110, 115, and 134 in the three preceding weeks, further rose to 143 last week, and caused the highest annual death-rates of 2·1 in Oldham, 2·2 in Edmonton, and 3·4 in Swansea. The deaths referred to measles, which had been 115, 101, and 118 in the three preceding weeks, fell to 113 last week; the highest death-rates from this disease were 1·6 in Middlesbrough, 1·7 in Tynemouth, 1·8 in Nottingham, 1·9 in Barnsley and in Cardiff, 2·4 in Burnley, and 3·0 in Swansea. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 70, 83, and 59 in the three preceding weeks, rose to 74 last week; of this number 19 were registered in London, 8 in Manchester, 4 in Liverpool, 4 in Middlesbrough, and 3 each in Stockport, Sheffield, and in Cardiff. The deaths attributed to diphtheria, which had been 52, 72, and 60 in the three preceding weeks, rose to 67 last week, and included 15 in London and its suburban districts, 6 in Birmingham, 4 in Portsmouth, and 4 in Manchester. The deaths referred to scarlet fever, which had been 33, 34, and 34 in the three preceding weeks, were 31 last week, of which 6 occurred in Birmingham, 5 in Manchester, and 4 in Middlesbrough. The fatal cases of enteric fever, which had been 17, 8, and 20 in the three preceding weeks, declined to 13 last week, and included 2 in Liverpool, 2 in Salford, and 2 in Sheffield.

The number of scarlet fever patients under treatment in the London Fever and the Metropolitan Asylums Hospitals, which had steadily decreased from 3599 to 3307 in the six preceding weeks, had further declined to 3222 on Saturday last; 320 new cases were admitted during the week, against 351, 401, and 340 in the three preceding weeks. These hospitals also contained on Saturday last 1318 cases of diphtheria, 339 of whooping-cough, 127 of measles, 80 of enteric fever, and 1 of small-pox. The 1240 deaths from all causes in London were 109 fewer than the number in the previous week, and were equal to an annual death-rate of 14·3 per 1000. The deaths referred to diseases of the respiratory system, which had been 245, 243, and 260 in the three preceding weeks, declined to 223 last week, and were 179 below the number registered in the corresponding week of last year.

Of the 5338 deaths from all causes in the 97 towns, 188 were attributed to different forms of violence, and 390 were the subject of coroners' inquests. The causes of 36, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Sheffield, Leeds, Bristol, West Ham, Bradford, Hull, and in 73 other smaller towns. Of the 36 uncertified causes of death, 8 were registered in Birmingham, 8 in Liverpool, 3 in London, and 3 in Gateshead.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1216 births and 787 deaths were registered during the week ended Saturday, March 14th. The annual rate of mortality in these towns, which had been 16·5, 17·5, and 16·6 per 1000 in the three preceding weeks, rose to 17·9 per 1000 in the week under notice. During the ten weeks of the current quarter the mean annual death-rate in these Scotch towns averaged 18·5, or 1·9 per 1000 above the corresponding rate in the 97 large English towns. Among the several towns the death-rate last week ranged from 6·8 in Hamilton, 9·4 in Falkirk, and 14·2 in Ayr, to 20·0 in Perth, 20·1 in Greenock, and 22·8 in Kirkcaldy.

The 787 deaths from all causes were 59 in excess of the number in the previous week, and included 77 which were referred to the principal epidemic diseases, against 98 and 73 in the two preceding weeks. Of these 77 deaths, 34 resulted from measles, 14 from diphtheria, 10 from infantile diarrhœal diseases, 8 from scarlet fever, 8 from whooping-cough, and 3 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·8, against 1·3 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 42, 48, and 36 in the three preceding weeks, were 34 last week; of this number, 24 occurred in Glasgow, 4 in Edinburgh, 2 in Paisley, and 2 in Leith. The deaths referred to diphtheria, which had been 14, 11, and 5 in the three preceding weeks, rose to 14 last week, and included 5 in Aberdeen, 3 in Glasgow, and 2 in Edinburgh. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 16, 13, and 14 in the three preceding weeks, declined to 10 last week, of which 3 were recorded in Dundee and 2 in Glasgow. The deaths attributed to scarlet fever, which had been 6, 13, and 7 in the three preceding weeks, were 8 last week, and included 4 belonging to Glasgow. The 8 deaths referred to whooping-cough were slightly in excess of the average in the earlier weeks of the quarter, and were all registered in Glasgow. Of the 3 fatal cases of enteric fever, 2 occurred in Glasgow and 1 in Edinburgh; a fatal case of typhus was recorded in Greenock.

The deaths referred to diseases of the respiratory system, which had been 143, 116, and 126 in three preceding weeks, further rose to 137 in the week under notice; 24 deaths resulted from different forms of violence, against 15 and 32 in the two preceding weeks.

VITAL STATISTICS OF LONDON DURING 1913.

IN the accompanying table statistics of sickness and mortality in the City of London and in each of the metropolitan boroughs are summarised for the year 1913. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to an annual rate of 6·7 per 1000 of the population, estimated at 4,518,191 persons in the middle of the year; in the three preceding years the rates had been 6·6, 4·5, and 5·1 per 1000 respectively. Among the various boroughs the rates last year ranged from 4·4 in the City of Westminster, 4·4 in Hampstead, 4·8 in Stoke Newington and in Holborn, and 4·9 in Chelsea, to 8·2 in Poplar and in Battersea, 9·1 in Bermondsey, 9·2 in Woolwich, and 10·1 in Deptford. The prevalence of scarlet fever showed a large increase as compared with that in other recent years, 17,552 cases being notified during the year, against 10,509, 10,489, and 11,312 in the three preceding years. Among the metropolitan boroughs the greatest proportional prevalence of this disease was recorded in Bermondsey, Battersea, Deptford, and Woolwich. The Metropolitan Asylums Hospitals contained 3810 scarlet fever patients at the end of last year, against 1574, 1878, and 2088 at the end of the three preceding years; 16,255 new cases were admitted into these hospitals during the year, against 9889, 9631, and 10,488 in the three preceding years. Diphtheria was rather more prevalent than it had been in either of the two preceding years, 7654 cases being notified, against 7389 and 7101 in 1911 and 1912 respectively. This disease was proportionally most prevalent last year in Paddington, St. Marylebone, St. Pancras, Poplar, Deptford, Greenwich, and Lewisham. The number of diphtheria patients admitted into the Metropolitan Asylums Hospitals during the year was 6814, against 4882, 6336,

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING THE YEAR 1913.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1913.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.									
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.	Deaths from all causes.	Death-rate per 1000 living.†
LONDON...	4,518,191	4	17,552	7654	4	758	15	349	48	92	145	30,721	6·7	—	1570	188	431	800	114	3098	6201	1·4	65,030	14·2
West Districts.																								
Paddington	142,210	—	487	304	—	25	—	8	112	—	2	938	6·5	—	56	7	12	37	6	71	188	1·3	1941	13·4
Kensington	171,284	—	558	145	—	28	—	13	112	3	4	863	5·0	—	84	3	6	29	4	80	206	1·2	2377	13·6
Hammersmith	123,745	—	537	138	—	13	—	8	101	—	1	798	6·3	—	47	7	12	47	—	64	177	1·4	1754	13·8
Fulham	157,117	—	767	270	—	34	—	19	121	5	2	1218	7·6	—	50	3	14	27	8	98	200	1·3	1992	12·9
Chelsea	64,598	—	206	61	—	7	—	8	35	—	3	320	4·9	—	18	3	1	5	1	24	52	0·8	911	13·2
City of Westminster	154,810	—	379	192	—	29	—	6	75	—	4	685	4·4	—	22	7	8	7	3	52	99	0·6	1992	13·3
North Districts.																								
St. Marylebone	114,532	1	417	130	—	19	—	4	78	3	1	653	5·6	—	33	10	6	10	5	37	101	0·9	1633	14·3
Hampstead	86,346	—	208	128	—	15	—	1	33	—	4	389	4·4	—	21	4	3	11	1	18	58	0·7	936	11·3
St. Pancras	214,330	—	568	438	—	41	1	11	215	5	9	1285	5·9	—	41	6	16	31	6	114	214	1·0	3321	15·2
Islington	326,585	—	1315	551	—	50	—	22	228	8	19	2199	6·6	—	107	17	34	61	5	221	445	1·3	5009	14·8
Stoke Newington	50,518	—	109	84	—	9	—	2	35	1	5	245	4·8	—	11	1	6	6	2	16	42	0·8	698	12·9
Hackney	223,353	—	821	331	—	39	1	19	184	8	15	1418	6·2	—	68	11	11	23	4	141	258	1·1	3037	13·5
Central Districts.																								
Holborn	46,949	—	132	60	—	7	—	1	29	—	2	231	4·8	—	10	—	4	6	—	15	35	0·7	698	14·7
Finsbury	84,679	—	274	107	—	15	—	14	125	5	3	543	6·3	—	30	4	9	31	—	97	171	2·0	1576	18·1
City of London	17,916	—	47	30	—	6	—	—	8	—	2	93	5·1	—	—	1	1	2	2	2	8	0·4	276	15·8
East Districts.																								
Shoreditch	109,654	—	354	185	—	15	1	9	159	4	8	735	6·6	—	52	3	14	29	1	207	306	2·7	2068	19·2
Bethnal Green	127,824	—	411	223	—	23	—	13	265	1	3	939	7·2	—	62	3	10	34	4	151	264	2·0	2006	16·1
Stepney	275,300	—	820	471	2	68	1	34	364	10	14	1784	6·4	—	95	8	22	26	11	287	449	1·6	4172	15·6
Poplar	160,913	2	754	345	—	40	1	26	173	5	3	1349	8·2	—	69	12	34	38	5	159	317	1·9	2668	16·1
South Districts.																								
Southwark	188,487	1	880	327	1	39	2	15	260	6	—	1531	8·0	—	106	11	19	38	6	182	361	1·9	3343	17·6
Bermondsey	124,739	—	731	243	1	27	1	14	130	3	3	1153	9·1	—	90	4	11	47	3	165	316	2·6	2206	17·8
Lambeth	297,139	—	1397	408	—	39	2	26	219	7	8	2106	7·0	—	99	14	37	47	8	202	407	1·3	4814	14·0
Battersea	167,464	—	949	288	—	20	2	10	123	3	5	1400	8·2	—	93	7	20	28	6	125	279	1·6	2361	14·0
Wandsworth	330,395	—	1007	447	—	52	2	32	206	9	14	1769	5·3	—	116	11	16	23	5	148	319	0·9	3550	10·6
Camberwell	261,805	—	1155	403	—	23	1	12	257	6	5	1862	7·0	—	68	13	18	54	5	179	337	1·3	3653	13·6
Deptford	109,280	—	626	245	—	17	—	1	232	—	—	1120	10·1	—	50	3	17	46	2	95	211	1·9	1704	15·2
Greenwich	96,015	—	330	267	—	8	—	5	112	—	—	722	7·4	—	40	2	12	24	2	52	132	1·4	1385	14·0
Lewisham...	168,822	—	670	431	—	34	—	3	84	—	5	1227	7·2	—	25	5	35	23	8	50	146	0·9	1814	10·4
Woolwich	122,382	—	645	402	—	14	—	8	72	—	1	1142	9·2	—	9	8	17	10	1	48	93	0·7	1573	13·0
Port of London	—	—	2	—	—	2	—		1			5												

* Including membranous croup. † The death-rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard

and 6184 in the three preceding years; the number of patients remaining under treatment at the end of the year was 1099, against 827, 1294, and 969 at the end of the three preceding years. The prevalence of enteric fever showed an increase last year, 758 cases being notified, against 704 in the preceding year. Among the several boroughs this disease was proportionally most prevalent in Fulham, the City of London, Stepney, Poplar, Southwark, Bermondsey, and Lewisham. The number of enteric fever patients admitted into the Metropolitan Asylums Hospitals during the year was 415, against 745, 552, and 381 in the three preceding years; 51 cases remained under treatment at the end of the year, against 88, 76, and 37 at the end of the three preceding years. The greatest proportional prevalence of erysipelas occurred in Finsbury, Shoreditch, Bethnal Green, Stepney, Southwark, and Deptford. The 349 cases of puerperal fever notified during the year included 34 in Stepney, 32 in Wandsworth, 28 in Islington, 26 in Poplar, 25 in Lambeth, and 19 in Fulham and in Hackney. Of the 92 cases of cerebro-spinal meningitis, 10 belonged to Stepney, 9 to Wandsworth, 8 to Islington, 8 to Hackney, 7 to Lambeth, and 6 each to Southwark and Camberwell. The 145 cases of poliomyelitis included 19 in Islington, 15 in Hackney, 14 in Stepney and in Wandsworth, 9 in St. Pancras, and 8 in Shoreditch and in Lambeth.

The mortality figures in the table relate to the deaths of persons actually belonging to the several boroughs, and are obtained by distributing the deaths in institutions among the boroughs in which the deceased persons had previously resided; the death-rates from all causes are further corrected for variations in the sex and age constitution of the populations of the several boroughs. During last year the deaths of 65,030 persons belonging to London were registered, equal to a corrected death-rate of 14·2 per 1000; in the three preceding years the rates were 13·3, 15·8, and 14·3 per 1000 respectively. Among the several boroughs the lowest death-rates last year were 10·4 in Lewisham, 10·6 in Wandsworth, 11·3 in Hampstead, 12·9 in Fulham and in Stoke Newington, and 13·0 in Woolwich; the highest rates were 16·1 in Bethnal Green and in Poplar, 17·6 in Southwark, 17·8 in Bermondsey, 18·1 in Finsbury, and 19·2 in Shoreditch. The deaths from all causes included 6201 from the principal infectious diseases; of these, 1570 resulted from measles, 188 from scarlet fever, 431 from diphtheria, 800 from whooping-cough, 114 from enteric fever, and 3098 from diarrhœa and enteritis among children under two years of age. The death-rates from these diseases in the aggregate ranged from 0·4 in the City of London, 0·6 in the City of Westminster, and 0·7 in Hampstead, in Holborn, and in Woolwich, to 1·9 in Poplar, in Southwark, and in Deptford, 2·0 in Finsbury and in Bethnal Green, 2·6 in Bermondsey, and 2·7 in Shoreditch. The 1570 fatal cases of measles were 495 below the corrected average number; this disease was proportionally most fatal in Kensington, Shoreditch, Bethnal Green, Poplar, Southwark, Bermondsey, Battersea, and Deptford. The 188 deaths from scarlet fever were 115 fewer than the corrected average number; this disease was proportionally most fatal in Hammersmith, St. Marylebone, Poplar, Southwark, and Woolwich. The 431 deaths from diphtheria showed a decline of 140 from the corrected average number; the greatest proportional mortality from this disease was recorded in Shoreditch, Poplar, Bermondsey, Deptford, Lewisham, and Woolwich. The 800 fatal cases of whooping-cough were 337 fewer than the corrected average number; this disease was proportionally most fatal in Paddington, Hammersmith, Finsbury, Shoreditch, Bethnal Green, Bermondsey, and Deptford. The 114 deaths from enteric fever were 55 below the corrected average number; the greatest proportional mortality from this disease was recorded in Paddington, Fulham, St. Marylebone, Stoke Newington, the City of London, Stepney, Battersea, and Lewisham. Diarrhœa and enteritis among children under two years of age was proportionally most fatal in Finsbury, Shoreditch, Bethnal Green, Stepney, and Bermondsey. In conclusion, it may be stated that the aggregate mortality in London last year from the principal infectious diseases, excluding diarrhœa, was 26·9 per cent. below the average.

* Including membranous croup. † The death-rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet Surgeons: J. D. S. Milln to the *Argyll*, on recommissioning; J. D. Hughes to the Chatham Royal Marine Division; J. Menary to the *Queen* and for General Staff duties; W. A. Whitelegge to Greenwich Hospital School and College; R. C. Munday to the *President*, additional, for service at the Admiralty; and T. Austen to the *St. Vincent*. Staff Surgeons: R. W. B. Hall to the *Lowestoft* and E. T. Burton to the *Nottingham*, both on recommissioning; and W. N. Blatchford to the *Pembroke*, additional, for disposal. Surgeons: M. Meelian to the *Argyll*, on recommissioning; and R. J. Barlee to the *Victory* additional, for disposal.

ROYAL NAVAL VOLUNTEER RESERVE.

The undermentioned have been appointed Surgeons:—Philip Dobson Pickles, Norman John Lancelot Rollason, and Bertram Cohen (dated March 16th, 1914).

ARMY MEDICAL SERVICE.

Colonel Robert W. Ford, D.S.O., from the half-pay list, is restored to the establishment, vice Colonel W. G. Macpherson, C.M.G., K.H.P., appointed Deputy Director-General (dated March 6th, 1914).

ROYAL ARMY MEDICAL CORPS.

Colonel W. W. Pike, D.S.O., has been appointed Assistant Director of Medical Services to the Sialkot and Abbottabad Brigades. Colonel M. Russell has taken up duty at Malta as Assistant Director of Medical Services.

Lieutenant-Colonel D. Shanahan has taken up duty at Eastern Command Headquarters, Horse Guards, as Deputy Assistant Director of Medical Services. Lieutenant-Colonel C. A. Young has been appointed for duty in the Eastern Command. Lieutenant-Colonel C. W. H. Whitestone has been appointed to the Southern Command. Lieutenant-Colonel W. Hallaran has been appointed in charge of the Military Hospital at Bareilly. Lieutenant-Colonel C. W. R. Healey has taken over charge of the Surgical Division at the Royal Herbert Military Hospital at Woolwich. Lieutenant-Colonel F. R. Newland has joined the Military Hospital at Colchester.

Major H. G. Pinches has arrived home for duty from the Military Hospital at Singapore. Major H. D. Packer has embarked for a tour of service in India. Major R. McK. Skinner has been selected for appointment as Specialist in Midwifery and Diseases of Women and Children to the Third Lahore Division. Major R. W. Clements has arrived home for duty from India. Major P. S. O. Reilly has been transferred from Gravesend to the Royal Arsenal at Woolwich. Major F. S. Penny has been transferred from Hong Kong to the Home Establishment. Major W. M. H. Spiller has embarked for India. Major E. F. Q. L'Estrange has been appointed to the Irish Command. Major W. Tibbits has taken up duty at the Military Hospital, Ambala Cantonment. Major J. D. G. Macpherson has arrived home from India. Major H. K. Palmer has been appointed to the Southern Command. Major S. de C. O'Grady has appointed to hold charge of the Detention Hospital at Deepcut. Major A. L. Scott has joined at Colaba. Major J. Matthews has been appointed for duty in the Northern Command. Major T. C. Mackenzie, D.S.O., has been transferred from York, to Richmond, Yorks. Major A. A. Seeds has taken up duty at Campbellpore Cantonment. Major F. E. Gunter has arrived home from India. Major H. W. H. O'Reilly has been appointed to the Military Hospital at Secunderabad. Major B. W. Longhurst has embarked for a tour of service in India. Major M. H. Babington has arrived home from Malta. Major V. J. Crawford has been appointed to the Southern Command. Major W. S. Harrison has taken up duty as Specialist Sanitary Officer at Jamaica. Major J. H. Barbour has arrived home from India. Major M. MacG. Rattray has been transferred from Shorncliffe to the Royal Herbert Military Hospital at Woolwich. Major E. H. Condon has embarked for a tour of service in India.

Captain A. T. Frost has been selected for appointment as Specialist in Dermatology and Venereal Diseases to the Eighth Lucknow Division. Captain A. H. Hayes has embarked for a tour of service in India. Captain R. Rutherford has been appointed to the Western Command. Captain O. Ievers has been transferred from Chatham to Shorncliffe. Captain J. C. G. Carmichael has taken up duty at the Military Hospital, Malta. Captain J. A. W. Webster has been appointed to the Military Hospital at Neemoch Cantonment. Captain E. V. Vaughan has arrived home from Singapore. An exchange on the roster for service abroad has been approved between Captain H. Stewart and Captain W. F. Tyndale, C.M.G. Captain E. B. Booth, Captain M. J. Coomie, and Captain G. Ormrod have embarked for a tour of service in West Africa. Captain J. Fairbairn has arrived home from the Sierra Leone Protectorate. Captain J. L. Wood has been transferred from Pontefract to Richmond, Yorks. Captain H. P. Hart has taken up duty at the Military Hospital, Cannanore. Captain E. B. Lathbury has arrived home from the Ranikhet Cantonment. Captain F. C. Lambert has relinquished charge at Pembroke Dock. Captain A. C. H. Gray has joined the London District. Captain R. D. O'Connor has arrived home from Murree Cantonment. Captain R. H. MacNichol has taken up duty at Malta. Captain A. S. Arthur has been appointed to hold medical charge at Pembroke Dock. Captain F. Casement has arrived home from Lucknow Cantonment. Captain J. St. A. Maughan has been transferred from Netley to Exeter. Captain E. M. Middleton has been appointed to Chatham. Captain P. S. Stewart has arrived home from Malta. Captain F. A. H. Clarke has been placed in charge of the Bacteriological Research Laboratory at Headquarters, Darjeeling Cantonment. Captain M. B. H. Ritchie has taken up duty as

Deputy Assistant Director of Medical Services (Mobilisation Branch) to the Fifth Mhow Division. Captain J. E. H. Gatt has been granted leave of absence home from India for one year on medical certificate. Captain N. D. Walker has joined for duty at Quetta Cantonment.

Lieutenant R. Davidson has embarked for India. Lieutenant J. M. Elliott has taken up duty at the Station Hospital, Rawal Pindi Cantonment. Lieutenant E. G. H. Cowen has been transferred from Lucknow Cantonment to Agra. Lieutenant L. T. Poole has joined at York. Lieutenant I. R. Hudleston has embarked for a tour of service in Jamaica. Lieutenant J. E. Hepper has been transferred from the Military Flying School at Upavon, Salisbury Plain, to Oxford. Lieutenant A. G. Biggam has relinquished duty at York. Lieutenant H. C. Todd has been transferred from Bangalore to Secunderabad.

INDIAN MEDICAL SERVICE.

Surgeon-General A. M. Crofts, C.I.E., Deputy Director of Medical Services to the Second (Rawal Pindi) Division of the Northern Army, has been granted general leave of absence for three months and ten days. Colonel R. Bradley Roe has taken up duty as officiating Assistant Director of Medical Services at Lahore.

Lieutenant-Colonel C. H. Bowle Evans has arrived home on leave of absence from India. Lieutenant-Colonel H. Pilgrim has been granted an extension of service. Lieutenant-Colonel J. L. Jones has joined at Bombay. Lieutenant-Colonel S. H. Henderson has been granted an extension of leave of absence home from India. Lieutenant-Colonel A. W. T. Buist has taken over civil medical charge at Campbellpore. Lieutenant-Colonel G. F. W. Ewens has been appointed Superintendent of the Punjab Lunatic Asylum at Lahore.

Major H. Innes, civil surgeon, Khasi and Jaintia Hill District, has been granted combined leave of absence home from India for one year. Major W. D. A. Keys has embarked for India. Major C. F. Marr has been selected as Medical Storekeeper to Government at Lahore, vice Major W. G. Richards, who has taken up duty at Madras.

Captain K. K. Mukerji has been selected for appointment as officiating Deputy Sanitary Commissioner, Burdwan Circle, Bengal. Captain R. F. Steel has been selected for permanent employment under the Government of Bombay. The services of Captain C. Holroyd have been placed at the disposal of the Government of Bengal as Superintendent of the Central Prison at Bareilly. Captain R. H. Bott has been selected for appointment as officiating Professor of Surgery at the Government Medical College, Lahore, *pro. tem.* Captain F. G. Stiles Webb has joined the North-West Frontier Province. The services of Captain M. S. Irani have been placed permanently at the disposal of the Government of Bombay. Captain N. T. Wells has handed over charge as Deputy Sanitary Commissioner of the Punjab on relief by Major E. L. Perry. Captain E. C. Hodgson has been appointed on special duty in connexion with the prevention of malaria at Madras. Captain J. D. Jones has taken up permanent duty under the Government of Bombay. Captain A. W. Greig has taken over charge as Superintendent at the Central Jail, Montgomery. Captain T. W. Harley has been appointed Superintendent of the Jail at Madura, Madras.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Lieutenant George H. Stevenson to be Captain (dated March 1st, 1914).

Cadet Colour-Sergeant Evan Davies, from the Birmingham University Contingent, Officers Training Corps, to be Lieutenant, on probation (dated Feb. 19th, 1914).

TERRITORIAL FORCE.

Royal Army Medical Corps.

Notts and Derby Mounted Brigade Field Ambulance, Royal Army Medical Corps: Captain Alexander R. Tweedie to be Major (dated March 14th, 1914).

Yorkshire Mounted Brigade Field Ambulance, Royal Army Medical Corps: John Downie to be Lieutenant (dated Jan. 24th, 1914). Lieutenant Thomas E. Lister resigns his commission (dated March 14th, 1914). Edward Douglas Ellis to be Lieutenant (dated March 14th, 1914).

5th London Field Ambulance, Royal Army Medical Corps: William Bertram Hill to be Lieutenant (dated Feb. 17th, 1914).

2nd Lowland Field Ambulance, Royal Army Medical Corps: William Hislop Manson to be Lieutenant (dated Feb. 17th, 1914).

Northumbrian Clearing Hospital, Royal Army Medical Corps: Captain William Thomas Harkness, from the 1st Northumbrian Field Ambulance, Royal Army Medical Corps, to be Captain (dated March 14th, 1914).

Attached to Units other than Medical Units.—Captain Charles R. Browne to be Major (dated Jan. 5th, 1914).

For Attachment to Units other than Medical Units.—Kenneth Douglas Wilkinson (late Cadet Sergeant, Birmingham University Contingent, Senior Division, Officers Training Corps) to be Lieutentant (dated Jan. 23rd, 1914). James Anderson to be Lieutenant (dated Jan. 31st, 1914). Lieutenant Cecil William Rowntree, from the 3rd London (City of London) Field Ambulance, Royal Army Medical Corps, to be Lieutenant (dated Feb. 18th, 1914).

COLONIAL MEDICAL SERVICES.

West African Medical Staff.—Mr. A. Hipwell, medical officer (Nigeria), and Dr. F. G. Thompson, medical officer (Gold Coast), have resigned. Dr. G. C. Walker, sanitary officer (Gold Coast), has retired on pension. The following gentlemen have been selected for appointment to the staff: Dr. W. H. Kauntze (Nigeria), Dr. A. R. Paterson (Nigeria), Dr. R. G. Ball (Gold Coast), Dr. E. J. H. Garstin (Nigeria), Dr. P. A. Clearkin (Sierra Leone), Dr. J. Mc.C. Clark (Sierra Leone), and Dr. J. Atkinson (Gold Coast).

Other Colonies and Protectorates.—Mr. J. T. Duncan has been selected for appointment as a Medical Officer in the Straits Settlements; Dr. G. V. Fiddian has been selected for appointment as an Assistant Medical Officer in British Guiana; Dr. J. M. Mackinnon has been selected for appointment as a Temporary Medical Officer in the East Africa Protectorate; Mr. B. C. N. O'Reilly and Mr. E. E. Wilbe have been selected for appointment as Medical Officers in the Gilbert and Ellice Islands; Dr. S. D. Stewart has been selected for appointment as a Supernumerary Medical Officer, Trinidad; Dr. G. H. Lewis and Dr. C. W. L. Cassel have been selected for appointment as Assistant Medical Officers, British Honduras; and Mr. H. B. Dodds has been selected for appointment as a Medical Officer in the Straits Settlements.

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

Among the contents of this journal for March is a joint contribution by Lieutenant-Colonel T. W. Gibbard and Major L. W. Harrison on the Treatment of Syphilis with Salvarsan, a paper read at the International Medical Congress, 1913. From the standpoint of the treatment of syphilis in the Army the authors believe that the best results will be obtained by a course of three salvarsan and ten mercurial injections prolonged over nine or ten weeks, and that the routine use of the treatment is likely to effect an annual saving of 70,000 to 80,000 hospital days. The remedy, however, must be entrusted only to those who are thoroughly acquainted with its indications and contra-indications and the technique of its administration. Colonel C. Birt discusses the best method of staining treponema pallidum. In an article on the wounding effects of the Turkish sharp-pointed bullet Major E. T. F. Birrell shows that the experiences of the Balkan war, 1912–13, do not altogether bear out the general impression that the wounding power of the sharp-pointed bullet is of greater severity than that of the ogival-tipped bullet. Polar exploration is a topic of much interest at the present moment, and the report of a lecture by Surgeon E. L. Atkinson, who, it will be remembered, was a member of the British Antarctic Expedition, 1910–13, on Antarctic Experiences will be read with much pleasure by those who had not the privilege of hearing the experiences at first hand. The lecturer deals with snow-blindness and its prevention, frost bite, the hygiene of the hut, the health of the explorers, and with sledging and its effects. An article on Solutions, by Colonel R. H. Firth, supplements a previous article by the same writer on Colloids.

THE GLAMORGAN RED CROSS GAZETTE.

The second issue of this excellent little publication, which is to be published three times a year, is dated February, 1914, and contains among other interesting matter the second part of Major R. J. Simons's (R.A.M.C., T.F.) article on Wounds and How they Heal. The use of the second personal pronoun when an impersonal statement is intended is an unfortunate mistake likely to cause an argument to appear personal, but a writer in the *Gazette* gives an instance where the second person has been substituted for the first with ludicrous effect. An examiner asked a young lady what she would do for a bad cold in the head. The examinee replied: "I would put my feet in a bath of hot water and mustard and keep them there until you (!) were in a profuse perspiration." The *Gazette* is published by E. J. Llewellin, Cadoxton-Barry, Cardiff. Price 6*d.* a year.

MEDICAL GOVERNORS OF GAMBIA.

Mr. W. Telfer Campbell, colonial secretary, the Gambia, writes to the *Times* asking the relatives or others of certain governors and administrators of the colony of Gambia for portraits of these officials as a gift or on loan for copying in order that the collection of portraits of ex-officials in the council chamber at Bathurst may be completed. Among the desired portraits are those of Surgeon-Major Samuel Row, C.M.G., and Brigade-Surgeon Valesius S. Gouldsbury, C.M.G. Communications should be made to Mr. Campbell, care of the Crown Agents, Whitehall Gardens, London, S.W.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

SHEFFIELD.

Post-graduate Course on Syphilis.

DURING this winter the number of men taking out the general clinical post-graduate course has far exceeded that of any previous year, and indicates the desirability of increasing their opportunities for such work. The Faculty of Medicine has therefore decided to give a short course on the etiology, pathology, and treatment of syphilis during April and May. It will consist of about ten lectures, given twice weekly, and will include demonstrations and practical classes. It is intended to deal chiefly with recent work on the spirochæta, Wassermann's reaction, and treatment by salvarsan.

Evening Clinics for Venereal Diseases.

The Royal Infirmary has very wisely taken up the question of offering special facilities for the treatment of venereal diseases. For this purpose an evening out-patient clinic for venereal diseases has been started by members of the staff, and promises to supply a long-felt want. The attendances have proved distinctly encouraging. The board and staff of the Royal Infirmary are to be congratulated on their enterprise and initiative in this important matter, which should be widely imitated in other places. The clinic is at present limited to male patients, who are admitted without any recommendation.

Appeal for Radium.

Following a letter to the local press a few weeks ago, signed by representatives of the staffs of all the voluntary hospitals in the city, a circular appeal has been issued by a committee of the staffs, of which Professor Sinclair White, senior surgeon to the Royal Infirmary, is chairman, for £10,000 to purchase radium. The appeal has already met with considerable success, more than half the sum having been promised. There is no doubt that within a short time the rest of the amount asked for will be forthcoming.

Edgar Allen Institute.

Coinciding with the appeal for radium, the Edgar Allen Institute, to which reference was made in your columns last week, has issued an appeal for subscriptions to enable it to continue its work in medico-mechanical treatment. The generous founder, Mr. Edgar Allen, has not only equipped it, but has been responsible for its upkeep for the last three years. He now feels that it has justified its foundation, and that he should receive some assistance from his fellow citizens in maintaining it. The response to the appeal is making satisfactory progress and already more than half the required amount has been promised. There is no doubt that Sheffield is fortunate in having such an addition to its means for hastening recovery in convalescent patients, and it would be a misfortune were it to be allowed to decline or even close for lack of support. A suggestion has been made that this institute should become the place where the radium is kept. From its accessible position and the constitution of its governing body, representative of the leading citizens and of the medical profession and hospitals generally, it corresponds exactly with the requirements of a radium institute. It is to be hoped that some arrangement of this kind may be come to so as to save the cost of running two institutes in the city—the upkeep of both of which would eventually fall on the generously disposed citizens.

The Pathological Section of the Medico-Chirurgical Society.

At a recent meeting of the Pathological Section of the Medico-Chirurgical Society Dr. F. W. Mott, F.R.S., gave an interesting address on Parenchymatous Syphilis before a large and appreciative audience. This is the first occasion upon which the recently formed Section of Pathology has entertained a distinguished visitor, and the innovation proved so successful that it is to be hoped it may be made an annual event. The Pathological Section of the Medico-Chirurgical Society has so thoroughly justified its existence that a movement is now on foot to form a Clinical Section on somewhat similar lines.

Hospital for Sick Children.

A vacancy on the honorary staff of the Children's Hospital caused by the resignation of Dr. E. W. Adams, has resulted in the election of Dr. John Stokes. Dr. Adams, who is leaving Sheffield to take up his new duties as a medical inspector under the National Insurance Act, has also resigned the post of lecturer on pharmacology and therapeutics at the University. His many friends will wish him every success in his new career.

March 17th.

BIRMINGHAM.

Birmingham General Dispensary.

THE 120th annual report states that the total ordinary receipts were £10,135 18*s.* 7*d.* and the special receipts £12,564. There was a decrease in the amount received for subscriptions and supernumerary notes of £1275. The expenditure increased by £221. The total number of patients admitted during the year by ticket was 49,365, a decrease of 13,155. The average cost per patient has been 4*s.* 9½*d.*, an increase of 1*s.* 1*d.*, an increase partly due to the tuberculosis department. The number of new patients in the tuberculosis department was 760, which does not include contacts examined and found not to be tuberculous. Of the total only 113 were insured under the Act. The attendances of patients during the year had totalled 21,329, being an average of 70 per working day.

Hospital Saturday Fund.

The annual meeting was presided over recently by the Lord Mayor. Since the inauguration of the Fund in 1873 over half a million pounds have been collected. In proposing the adoption of the report the Lord Mayor made interesting comparisons with similar funds in other cities. In spite of the Insurance Act a new record has been established for the Birmingham Fund, as for the first time over £23,000 has been collected. In London the collection amounted to £50,419, and there had been a drop of £4658; at Manchester in 1912 there was a decrease of £382 and a further drop last year. At Liverpool in 1912 they lost £2132, but last year there was a fall of only £1. At Leeds in 1912 they went back £836, and last year £206. Leicester reported an increase of £498 to a total of £15,632. His lordship called attention to the fact that there were 500 firms who were not subscribing to the Fund. Of these, about half fell out over the Insurance Act, but some of these were returning. The organisation was being worked very cheaply. The report

showed that the percentage on collection was 5·86*d.* There, again, Birmingham was beaten by Leicester, whose percentage was 4½*d.* The figures for the other big towns were: London, 9½*d.* per cent.; Manchester, 11½*d.* per cent.; Liverpool, 9½*d.* per cent.; and Leeds, 6½*d.* per cent.

After-care of Tuberculous Subjects.

At a conference held between representatives of the health committee of the city council, the board of guardians, the Insurance Committees, and the City Aid Society to consider the difficulty of dealing with phthisical cases, it was resolved that the City Aid Society be asked to form a special committee for the purpose of coördinating action by the various authorities and societies. A circular letter has been sent to all institutions, hospitals, and organisations which deal with consumptives, and to all medical men in the city, inviting them to send on a form particulars of any case which comes to their notice and requires additional help. It is hoped in this way to obtain fairly complete information as to the number of such cases and the amount and kind of additional help specially needed.

The United Kingdom Police Surgeons' Association.

The annual meeting of this association was held in the Medical Institute, Birmingham, on March 14th, the President, Professor J. T. J. Morrison, in the chair. The council in the annual report, and in repetition of a previously expressed opinion, stated that the value of the association lay in the possibility so afforded for ascertaining corporate needs and taking combined action thereon. The good offices of the British Medical Association in helping to advance the inadequate scale of capitation payments in several districts were cordially acknowledged, while it was noted that a knowledge of "first aid" is now generally regarded as part of the equipment of the police force, and members were advised to bring to the notice of local authorities the practice of paying police surgeons for the necessary instruction in ambulance work. The report having been received and adopted, the following officers were elected for the ensuing year:—President: Professor J. T. J. Morrison, Birmingham. Vice-Presidents: Sir Henry Littlejohn, Edinburgh; Dr. H. W. Oulton, Dublin; Mr. F. W. Lowndes, Liverpool; and Mr. H. Nelson Hardy, London. Treasurer: Mr. J. Paul Bush, Bristol. Honorary Secretaries: Dr. Hugh F. Powell, Cheltenham; Dr. W. Hartley Bunting, Birmingham. Council: Dr. H. Barnes, Carlisle; Dr. J. F. Craig, Birmingham; Mr. G. H. Heald, Leeds; Mr. W. J. Heslop, Manchester; Dr. T. F. Higgs, Dudley; Dr. C. E. Hoar, Maidstone; Dr. L. Maybury, Portsmouth; Dr. H. B. W. Plummer, West Bromwich; Mr. W. Powell, Cheltenham; Mr. W. M. Roocroft, Wigan; Mr. W. Roughton, London; and Dr. J. Young, Bristol.

March 17th.

BRISTOL AND WESTERN COUNTIES.

Bristol General Hospital: Workmen's Subscriptions.

A FURTHER step in the campaign described in the issue of Feb. 28th (p. 638), by which a committee claiming to represent the working men of Bristol seeks to gain a footing in the governing bodies of the Bristol hospitals, was completed this week at the annual meeting of the General Hospital, when Mr. Herbert M. Baker, chairman of the committee, made a very interesting statement. Beginning by an acceptance of the claim of the working classes to be represented on the hospital committee—a claim based on their generous subscriptions—he pointed out that about 12½ per cent. of the hospital expenses were met by those subscriptions. The hospital committee had for some time past been considering the advisability of establishing direct representation of the working men, but had been hindered by difficulties in connexion with the fixing of a franchise. They had, however, invited 21 firms whose employees (numbering 22,000) subscribed £20 and upwards to the hospital to send representatives, chosen by the workpeople, to meet them. These representatives had constituted themselves into a standing advisory committee and had elected one of their number to act as their representative on the hospital committee. By this means the hospital has secured for the working man a method of direct representation on the committee, while at the same time avoiding concessions to the self-appointed "representatives" of labour. The annual report of the charity was read, and contained many interesting items, of which the new pathological department, the change in the presidency and in the secretaryship, and matters relating to the new wing, have already been fully mentioned in these columns. The committee hope to open the new wing this summer. During 1913 the in-patients reached a record total of 3056, an increase of 216 on the previous year. The average stay in hospital was 21 days. Out-patients numbered 33,925, a total less than that of 1912 by 4405; this drop is doubtless due to the National Insurance Act, and is welcomed by the committee as tending to intensify the consultative nature of the out-patient department. The ordinary income amounted to £12,697, an increase of over £1000; the ordinary expenditure showed an increase of £336 only, and totalled £16,300. Allusion is, of course, made to the legacy of £25,000 in securities left to the hospital by its late president, Mr. Joseph Storrs Fry. The Lord Mayor, who was in the chair, spoke feelingly of the incalculable loss to the hospital and the city generally in the death of Mr. Fry, but congratulated the institution on securing so worthy a successor in Mr. George A. Wills.

Bristol Insurance Committee.

At the last meeting of this committee the chairman gave an interesting *résumé* of the year's work so far as medical benefit was concerned. About 80,000 insured persons had been treated by the panel doctors, who had issued nearly 400,000 prescriptions. A fact of significance was that at the end of the 12 months only about 600 of the insured had asked to change their medical man. This, as the chairman remarked, was a vindication of the policy of free choice of doctor. The chemists' account amounted to £12,800. It was reported that the medical referee was being temporarily remunerated by the practitioners themselves until some permanent basis had been decided upon. A sum not exceeding £100 was appropriated for health lectures.

Children's Hospital, Bristol.

The annual report of this hospital showed that 4873 out-patients and 978 in-patients had been treated during 1913. The income amounted to £4602 and the expenditure to £5241. Representatives of the employees of some of the largest firms spoke in warm appreciation of the hospital's value.

Lord Mayor of Bristol's Hospital Sunday Fund.

At the first distribution of this fund £1600 was divided between the medical charities of the city.

The total sum collected to date is £1887, or about £70 less than last year at the corresponding date.

Plymouth Tuberculosis Scheme.

The Plymouth sanitary committee at their last meeting approved a scheme for the establishment of a tuberculosis dispensary, the erection of pavilions for 30 patients on the site of the borough hospital, and the provision of 44 beds at the Devon and Cornwall Sanatorium, Didworthy, or elsewhere. The scheme will involve an annual charge on the rates of about £1623.

Health of Falmouth.

The medical officer of health for Falmouth (Dr. A. Gregor), in his annual report for 1913, states that the death-rate was 13·15 per 1000. The death-rate from phthisis and other tuberculous diseases was 0·52 per 1000. The birth-rate was 17·46 per 1000.

A New Workhouse Infirmary for St. Austell, Cornwall.

At a meeting of the St. Austell board of guardians, held on March 6th, a tender for £3667 was accepted for the erection of a new workhouse infirmary.

Miners' Phthisis in Cornwall.

The medical officer of health for Camborne rural district (Dr. A. Bowhay), in his annual report for 1913, states that during the past 14 years 25 per cent. of the deaths from miners' phthisis had been in men who had previously worked in African mines.

March 17th.

SCOTLAND.

Exemptions from Vaccination in Scotland.

The Secretary for Scotland has given figures showing the number of exemptions from vaccination in Scotland from the passing of the Vaccination (Scotland) Act, 1907, which authorised the making of statutory declarations of conscientious objection to vaccination in Scotland. The numbers of these statutory declarations made in respect of births registered in subsequent years were as follows: 1907, 7258; 1908, 15,846; 1909, 22,746; 1910, 26,954; 1911, 29,582; 1912, 32,863. The figures for 1911 and 1912 have not yet been published, and are subject to revision. This tremendous increase of unvaccinated persons speaks for itself and must necessarily occasion disquietude to the public health authorities.

Treatment of Lead Poisoning.

A very interesting paper on the Electrolytic Treatment of Lead Poisoning was read on March 2nd before the Royal Society of Edinburgh by Sir Thomas Oliver and Mr. T. M. Clague. The authors gave an explanation of the new method of treatment which had been devised by them. This is known as the double electric bath treatment, which is being employed with remarkable success in lead works. The men immerse their feet in a bath of water in which a grid of aluminium is fixed. The hands are placed in a similar bath, also containing an aluminium grid, and the current from an eight-cell accumulator is gradually turned on. The effect of the current is to ionise the lead in the tissues of the person treated, and thus to drive it from one pole to the other, with the result that the person suffering from lead poisoning shows no signs of it after a week or two, while a bath once or twice a week prevents the lead from settling in the system.

Small-pox in Aberdeen.

One of the four cases of small-pox in Aberdeen has proved fatal, the victim being the father of the family who have been attacked, a man of 46, and a mason by trade. So far no fresh cases have been reported.

Dispensaries Closed in Dundee.

At the last quarterly meeting of the Dundee Royal Infirmary it was decided to close the last two remaining dispensaries owned by the infirmary in the city, owing to the small number of patients attending in consequence of the working of the Insurance Act. Arrangements have been made for patients to be seen in the infirmary out-patient room.

Dental Treatment for Children.

At a recent meeting of the Kincardineshire secondary education committee a report was submitted in regard to the proposed dental treatment under the scheme of medical inspection of school children. It was thereupon agreed to engage the services of a dentist at a fee of 7*s.* per case treated. It was estimated that such a scheme would cost £131 per annum.

Aberdeen Insurance Committee: Publication of Doctors' List.

At a meeting of the Medical Benefits Subcommittee of the Aberdeen Burgh Insurance Committee, held on the 9th inst., a letter was read from the Local Medical Committee complaining of the publication of a list of Aberdeen panel doctors, showing the number of patients on each doctor's panel. The committee replied that the list was not officially supplied, and that the publication of it was unauthorised and was regretted by the committee. It is understood that the publication of this list has given rise to considerable indignation among the medical men upon the panel in Aberdeen.

Glasgow Maternity and Women's Hospital.

His Majesty has graciously granted permission for the inclusion in the title of this institution of the word "Royal."

March 17th.

IRELAND.

Radium Institute for Dublin.

THE following committee has been appointed by the council of the Royal Dublin Society to take entire charge of the Radium Institute: Sir Howard Grubb, Professor John Joly, Professor J. A. M'Clelland, Professor J. Mallet Purser, Professor A. Francis Dixon, Dr. W. E. Adeney, and Professor E. J. McWeeney. It is estimated that at least half a gramme of radium will be required, which at the present price will cost from £9000 to £10,000. The Royal Dublin Society has voted £1000, and Lord Iveagh has given an equal sum. The radium is to be kept permanently in the chemical laboratory of the society, the emanation derived being available for therapeutic uses and research by qualified medical men. Medical men receiving the emanation for hospitals are required to present confidential reports as to the results obtained. The emanation supplied for use in a hospital shall not be applied to any but the specified case or cases without the consent of the committee. The charge for emanation will be based on the number of estimated millicuries at the time notified to the purchaser for the removal of the tube from the society's premises.

Civic Survey of Dublin.

In his note added to the recent report of the Departmental Committee on Housing Conditions in Dublin Mr. J. F. MacCabe urged that a civic survey of Dublin should be undertaken before any further housing schemes were adopted. Such a survey would include the consideration of the topography of the city and its surroundings, its means of communication, and industries, as well as the movements, needs, and occupations of the population. It was announced last week that the Local Government Board intends to undertake such a survey without delay.

The Belfast Tuberculosis Scheme.

Dr. J. M. McCloy and Dr. James Shaw have been appointed by the city corporation of Belfast full-time assistant tuberculosis medical officers, the former at £350 and the latter at £250 per annum. Dr. A. Trimble, chief tuberculosis medical officer, is being paid £600 a year.

Scarlet Fever in Newtownards.

At the monthly meeting of the Newtownards board of guardians held on March 14th it was decided to convert the room above the present board room into a temporary ward, owing to the very large number of cases of scarlet fever now being treated in the present fever hospital. Many of the cases have been sent from Comber, where the disease has been extensively epidemic.

Benn Ulster Hospital.

From the report presented to the friends and supporters of the Ulster Hospital for the Eye, Ear, and Throat (established by the late Mr. Benn) at the forty-third annual meeting, held in the institution, Clifton-street, Belfast, on March 11th, it appears that during 1913 there were 2634 new patients, including 424 intern cases. Financially, at the beginning of the year the balance due to the bank was £66 12*s.* 11*d.*, while at the end of the 12 months this was reduced to £16 1*s.* 2*d.*

March 17th.

PARIS.

The "Metro" and Tuberculosis.

THE Extra Parliamentary Commission on Tuberculosis, composed of senators, deputies, municipal councillors, and medical men, points out that one of the principal sources of danger as regards the propagation of tuberculosis arises from public vehicles, cabs, motor-buses, &c. The carriages of the metropolitan underground railway appear to constitute the most dangerous focus; for while motor-buses and cabs can be aired and disinfected, the carriages of the "Metro" on most of the lines are never exposed to either light or air, the depôts being all underground. The platforms of the stations are often washed, but the carriages receive only a sweeping. Although spitting in these vehicles is forbidden, the mud brought in on the feet of travellers, the dust, the germs on clothes, are all sufficient causes of infection demanding serious attention. It cannot be absolutely proved that there has been any instance of the propagation of tuberculosis among passengers during the brief period they are in the carriages, but that it is not unlikely is shown by the analogous cases of measles, scarlet fever, and diphtheria which have been contracted on lines having stations close to children's hospitals, whither mothers take their children for consultation. The same has been observed on the motor-bus routes leading to these same hospitals. The medical service of the Metropolitan Company, however, has been struck with the increase in the number of cases of tuberculosis among their employees, especially those who spend the whole day in the carriages and close the doors after each stop. The second-class carriages are frequented, especially at certain times of the day, by a working-class population utterly disregardful of hygienic precautions. These carriages being tightly closed the odour and foul air become very oppressive. To these sources of infection must be added the fact that employees pass nearly the entire day underground, deprived of fresh air and sunlight, without physical exercise, and thus their bodily resistance is greatly lessened. The Commission urges the study of a more efficacious method of airing the carriages and the tunnel itself than that by ventilators at intervals which, by stirring up the air, merely set the dust in motion, with results more distressing than useful. Finally, say the Commissioners, the carriages must be frequently disinfected, and the employees permitted some time off during the day that they may avoid the dangers of a continued sojourn underground.

The Lack of Army Doctors.

The sanitary condition of the army, particularly in the eastern region, where the number of garrisons was abruptly doubled last October, has caused considerable alarm, which has been the subject of much discussion in the Chamber of Deputies. A Commission of Inquiry has visited the new barracks, for the most part hastily constructed, and calls for certain necessary improvements. The particularly rainy winter, the overfeeding of young recruits, and the defective hygienic conditions had led to a recrudescence of the morbidity, which, however, has now completely returned to normal. But a disquieting condition brought to light during the inquiries is the insufficient number of military medical officers, which has been so serious that to fill the vacant posts the Minister of War has had to appeal to the civil doctors belonging to the army reserve and the territorial forces, to retired military medical officers, and even to students of medicine near the close of their curriculum.

Emergency Surgery by Military Officers.

A medical officer from a station in the south of Algeria went afield to perform an amputation at the thigh in the case of a soldier suffering from a serious wound. As the wounded man was cured the commandant of the Algerian army wrote to the medical officer congratulating him on the brilliant result, but requiring the establishment of a course of elementary instruction for officers in the field to enable them to give such urgent aid to their men as appeared essential pending the arrival of the medical officer or the removal of the patient to the nearest medical post, either of which in war time might take up a great deal of time. This note has called forth serious protests from a French journal of military medicine which urges the incompetence of officers to give the needful intelligent medical attention, and the likelihood of danger from their inopportune intervention without a proper diagnosis, which in the event of unfortunate consequences might involve the State in serious pecuniary responsibility.

The Double Xiphopagous Monster.

The separation of double xiphopagus, to which reference was made in my letter in THE LANCET of

Jan. 17th, has been necessitated by the fact that one of the children became seriously ill, and, indeed, died two days after the operation. As was suspected, it was found that the fleshy bridge contained a tongue of hepatic tissue common to both organisms. This was ligated without difficulty on both sides. The necropsy on the child that died showed it to be affected with athrepsia, so that it probably lived at the expense of its companion, and would have died sooner but for this union. The surviving child is in excellent health. The death of one of the organisms of a xiphopagus has been frequently noted, separation having been effected on account of ill-health of one of them.

March 16th.

ITALY.

The Hospital Question in Rome.

THE popular agitation about the hospitals of Rome culminated on March 9th in a general strike which lasted for 36 hours in the capital, and was the occasion of scenes of grave disorder and some violence. In a letter two years ago I explained the causes of the crisis in the finances of the Roman hospitals[1] and the appointment of a Royal Commission to re-establish the hospitals on a sound financial basis. The economies practised have proved very unpopular among the people of Rome. The closing of the hospital of San Giacomo and certain accident and emergency stations, "posti di pronto soccorso," has transferred the bulk of the hospital work to the newly erected but inconveniently distant Policlinico outside the walls, with the assistance of four emergency stations within the city. The admission of the poor without payment has been as far as possible limited to those able to produce the official certificate of poverty, and the free distribution of medicines has been curtailed with the utmost strictness. The number of hospital attendants has been reduced and their salaries have been lowered. This last reform led to the explosion of the popular resentment, for the Camera del Lavoro espoused the cause of the *infermieri* and enlisted in their favour the sympathies of the workmen of Rome. But the demonstration of March 9th embraced all parties, when over 100,000 people assembled in the Piazza del Popolo. The commission despatched by the meeting to convey their wishes found the Government in a yielding mood. The hospital of San Giacomo was reopened at 5 o'clock in the afternoon for the treatment of emergencies, with three beds for men and two for women, and six doctors on the staff. Promises were also made that the difficulties in the way of admission to hospital should be lessened and that the rights of the hospital attendants should be considered.

Presentation to Dr. A. R. Coldstream, of Florence.

On March 9th, at the Villa Trollope, Florence, Dr. and Mrs. A. R. Coldstream were the recipients of a presentation from patients and friends of a silver vase, designed and wrought by Mgr. Durst, of the Casa Giudi, and of a cheque for £285, on the occasion of Dr. Coldstream's retirement after more than 30 years' practice in Florence. A large company were assembled for the presentation, which was made by the chairman of the committee responsible for getting up the testimonial, the Rev. Harbut Tanner, who in a felicitous speech recalled the work done in many fields of activity by Dr. and Mrs. Coldstream, and bore witness to the value of their influence upon the life of the Anglo-American community in Florence. Dr. Coldstream, with a speech of anecdote and reminiscence, thanked the company on behalf of himself and Mrs. Coldstream, and a few words from Canon A. A. Knollys brought this *riunione simpatica* to a close.

March 14th.

[1] THE LANCET, June 29th, 1912, p. 1792.

VIENNA.

Remarkable Increase in the Number of Medical Students.

THE Medical Council of Vienna has issued to all the other Austrian medical councils a circular on the subject of the remarkable increase in the number of students of medicine, as manifested by the fact that there have been 630 new matriculations in the medical faculty for the winter term 1913–14. More students than at any former period are now coming to the University of Vienna from all parts of the Austrian empire and South-Eastern Europe, so that the scientific institutes of the faculty of medicine in this city are unable to deal with the numbers. The Medical Council at length decided to take some steps in the direction of checking this undue multiplication of medical men, and is now seeking information as to the number of practitioners in the district of each Austrian medical council, the number of deaths amongst them, the proportion of them to the population in the various districts, and the number of practitioners required to give the population the benefit of having everywhere an opportunity of consulting properly qualified advisers; other inquiries contained in the circular have reference to the rate of remuneration and the total income of practitioners in various districts. When the replies are received they will be summarised, and the necessary information as regards the prospects of a medical career will be supplied to the schools and colleges. According to all present appearances it is almost certain that the result of this inquiry will be a recommendation that the number of young men taking up the study of medicine should be restricted, and that most of those whose thoughts have turned in that direction should be advised to seek some other vocation.

The Treatment of Septicæmia with the Silver Compound of Methylene Blue.

For some time investigations have been in progress in this city with respect to the treatment of septic conditions with the substance known as methylene blue and its compounds, the supposition being that the affinity of this dye for the pathogenic micro-organisms would render the latter innocuous. At a recent meeting of the Medical Society of Vienna Dr. Arnstein showed two cases treated on these lines. One of them was a woman of 35 years, who after a premature delivery without medical aid developed puerperal sepsis and was brought to the hospital suffering from an occasional rigor, endocardial symptoms, and parametritis complicated with profound anæmia and great weakness. An intravenous injection of 2 decigrammes (3 grains) of the silver compound of methylene blue lowered the temperature a little, and another injection of the same strength on the following day was followed by a fall of the temperature to normal, accompanied by a rapid cessation of all septic symptoms. The other patient was a girl, aged 17 years, suffering from acute polyarthritis

and mitral insufficiency with stenosis; she also had a pulse-rate of 110 and received no benefit from aspirin. An injection of the dye resulted in quick relief of the symptoms, although the pathological changes in the heart were of course not affected. Altogether eight cases were treated, the conditions including endocarditis, polyarthritis, erysipelas, general sepsis from a gangrenous appendix, lobular pneumonia, and disease of the hip and knee, probably of tuberculous origin. Out of eight cases only three were not benefited, while the remaining five improved distinctly. It was stated at the meeting that intramuscular injections were not so advisable as intravenous ones, and that it was a good plan to inject first 1 decigramme (1½ grains) and follow it up after one or two days by another injection twice as strong. It was important to have the substance completely dissolved and to use a fresh solution every time.

The Multiplication of Titles for Medical Men.

Numerous members of the medical profession have of late been granted the privilege of obtaining various titles like "imperial councillor," "medical councillor," and similar high-sounding expressions for use on their doorplates. The system is obviously open to criticism, and is, in fact, not viewed with approval by the bulk of the profession, for as a rule the reasons on account of which such distinctions have been conferred are not very apparent. In the majority of cases the recipients of these titles do not possess any exceptional merits which might distinguish them from their neighbours. The medical authorities have therefore taken the matter up, and it is intended either (1) to endeavour to induce practitioners to refuse to accept any of these minor titles as being derogatory to their professional dignity; or (2) to bring it about that every medical man after having practised for, say, 25 years should receive a medical title like "Medicinal Rath" or something equally designating him as having been engaged in practice for a considerable length of time.

The Treatment of Rabies.

Writing to the *Medicinische Klinik* Professor Bujwid discussed the methods of treatment of patients either suffering from rabies or supposed to be infected with it, and in his communication he gave the results obtained by him in the institute for rabies in Cracow. The institute supplies the anti-rabic emulsion for all cases coming from the eastern part of our Empire. This country of Galicia has the largest percentage of cases of rabies in Austria, owing to the low standard of general hygiene amongst the poor population, and to the number of stray dogs, and perhaps also wolves. Thus, since the year 1893, when the institute was opened, and one patient was treated, the number of patients went up rapidly, the figures being 38, 104, 146, 160, 288, 320, 404, 647, 516, 556, 537, 799, 746, 765, 867, 846, 780, 795, 1120, 600. The mortality was very variable, from zero up to 1·7 per cent. (in 1901, 1902, and 1908). After, however, introducing a new virus obtained by 30 passages through rabbits, a "fixed virus" has been prepared and is now available for use; it remains constant in so far as it kills a rabbit in eight days, whilst the previous virus took from 17 to 12 days for its action. By using this "fixed virus," the mortality has been brought down to 0·4 per cent. Such results must be regarded as satisfactory, and as soon as the general population have been brought to realise the necessity of very early treatment there is good reason to hope that nearly every patient infected by a rabid animal will be saved.

March 16th.

CANADA.

New Chancellor for McGill University.

Sir William Macdonald has been elected Chancellor of McGill University, in succession to the late Lord Strathcona. The new Chancellor has been a munificent friend to the institution. On the same day that Sir William Macdonald was elected the board of governors appointed Dr. Geddes a Governors' Fellow of the University, and also announced that Dr. James Douglas, of New York, had given the University $10,000 for a Fellowship in Mining.

Canadian Militia Medical Service Association.

The seventh annual meeting of the Association of Officers of the Medical Services of Canada was held in Ottawa on Feb. 24th and 25th. At the annual banquet on Feb. 24th Lieutenant-Colonel John T. Fotheringham, M.D., of Toronto, presided, and H.R.H. the Duke of Connaught was the guest of the evening. Major D. B. Bentley, M.D., of Sarnia, Ont., Commander of the Fourteenth Field Ambulance, was presented by His Royal Highness with the silver cup given annually by Colonel George S. Ryerson, of Toronto, for the best field ambulance work during 1913. Lieutenant-Colonel R. T. Macdonald, of Sutton, Quebec, was elected president of the association, and Major T. H. Leggatt, of Ottawa, secretary. The Hon. Samuel Hughes, Minister of Militia, has increased the annual grant to the association from $500 to $1000.

Vancouver General Hospital.

It is proposed to add to the Vancouver General Hospital a maternity hospital, an infectious disease building, and administration quarters. The cost of this will be about $700,000. Recently a deputation waited on the British Columbia Government requesting a grant of $250,000; and it was pointed out that quite 50 per cent. of the cases treated in this hospital came from points in the province outside the city of Vancouver, and that more than $1,000,000 had already been spent on this hospital. To this amount the Government had only contributed $35,000.

American Bacteriologists Meet in Montreal.

The meetings of the above were held recently at McGill University. Their society brings together workers in all branches of bacteriology, and is entirely separate from the American Association of Pathologists and Bacteriologists. There were present workers in the bacteriology of water and milk, agricultural bacteriologists, and public health workers. The interest of the meeting centred around the communication of Dr. N. S. Ferry, of Detroit, U.S.A. The reason of this was due to the fact that the lay press had heralded Dr. Ferry as the discoverer of the micro-organism of scarlet fever. What he described, however, was a coccus which he had frequently found in the throats of scarlet fever patients. He has not been able to produce the disease by inoculation of a pure culture of this organism. There was one striking feature in connexion with this announcement—namely, that nurses at the Detroit Contagious Diseases Hospital who had previously been liable to catch the disease from the patients, since Dr. Ferry had vaccinated them

with pure cultures of this organism during two years or more had not developed a single case of the disease in their ranks; and it is interesting to add that when Dr. Ferry was absent for a few months, and the supply of vaccine had ceased, some of the nurses who had not been vaccinated contracted the disease.

March 7th.

Obituary.

GEORGE ERNEST HERMAN, M.B. LOND., F.R.C.P. LOND., F.R.C.S. ENG.,

CONSULTING OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL.

WE regret to record the death on March 11th, at his country house in the West of England, of Dr. George Ernest Herman, one of the leading British obstetricians and gynæcologists of the last quarter of the nineteenth century, and a teacher whose influence was carried by his published works far beyond the wide circle of his old pupils at the London Hospital.

Dr. Herman was born on Feb. 8th, 1849. After studying medicine at the London Hospital he qualified M.R.C.S. Eng. and L.S.A. in 1870. In 1875 he obtained the Fellowship of the Royal College of Surgeons, and in 1879 the M.B. degree with honours at the University of London. In 1885 he was elected a Fellow of the Royal College of Physicians of London. Thus, although he never proceeded to the doctorate in his university he was one of the few gynæcologists of his time who held the Fellowship of both Royal Colleges.

In 1876, at the early age of 27, Dr. Herman obtained the post of assistant obstetric physician to the London Hospital, and in 1883 he was promoted to the full staff in succession to Dr. Palfrey. For the next 20 years he continued his active duties of obstetric physician to the hospital and lecturer on midwifery and diseases of women in the Medical School, retiring in 1903, when he was appointed consulting obstetric physician. Apart from his long and honourable association with the London Hospital, Dr. Herman did excellent work as physician to the Royal Maternity Charity and to the General Lying-in Hospital, York-road, Lambeth, and he was also consulting obstetrical physician to the East End Mothers' Home and to the Tower Hamlets Dispensary. In 1893 he was elected President of the Obstetrical Society of London, and in 1886 President of the Hunterian Society, while the Chicago Gynæcological Society conferred on him its honorary Fellowship. As an examiner in midwifery Dr. Herman did much sound work at the English Conjoint Board and at the Universities of Oxford, Cambridge, London, Durham, and Manchester.

But it was mainly by the written word that Dr. Herman's method and manner as a teacher became known to countless numbers of students and practitioners. Something of his own individuality was stamped upon almost every page of the three works which are indelibly associated with his name. His "First Lines in Midwifery" for students and midwives was first published in 1891 and is still deservedly popular, while "Difficult Labours," which first appeared in 1894, has a place by itself on the working practitioner's bookshelf. Herman's "Diseases of Women" was first published in 1898, and has passed successfully through a number of editions, the last appearing two years ago under the joint editorship of the author and Dr. Drummond Maxwell. This work was rightly described by Dr. Herman as a "clinical guide," and, like his previous obstetrical handbook, it was unique in its own field. The influence for good exercised by these two works upon students and practitioners during the past 20 years must have been very great indeed.

Sir Francis H. Champneys writes: "The death of Dr. Herman removes one of the leaders of the branch of obstetrics and gynæcology in our country, after an active and honourable career extended over some 40 years. During practically the whole of this time, or, at least, until his superannuation at the London Hospital severed his connexion with that institution, his work had been continuous, strenuous, and of a high class. His writings showed an active, alert, and singularly logical mind, combined with a wholesome scepticism (in the best sense) which prevented him from accepting current theories, however fashionable, unless facts were found to bear them out. During his lifetime many such fashionable waves have begun—and ended. His style was lucid and pure, with the least shade of a love of archaisms, such as were also dear to the late Dr. Gee; and this probably sprang in both from a habit of reading old books. In neither case did this, however, prevent the author from being thoroughly abreast of his time. Dr. Herman was one of a little band of juniors who in the seventies were, so to say, 'waiting for the consolation of Israel' and who were, therefore, more than ready to welcome the advent of the late Dr. Matthews Duncan to London, an advent which wrought a peaceful revolution in obstetrics and gynæcology in England. To those who are not old enough to remember its condition before that time the change can hardly be described. The writer was much associated with Dr. Herman throughout his career, especially in the Obstetrical Society of London, of which he was all along one of the most useful and active Fellows, and also on various examining boards. His name will long be honourably remembered in the department."

A former colleague at the London Hospital writes: "Only those who were intimately acquainted with Herman knew the man as he really was. His cold and somewhat formal manner and his short and precise way of speaking gave no clue to the kindly feelings or to the breadth of mind that lay beneath. But many of his residents, as well as sisters and students, can testify to acts of kindness done so quietly and naturally that no one seemed to be aware of them; and whenever a difficult question arose his colleagues felt that they could always rely upon him. As one who was associated with him for many years I have no hesitation in saying that the work he did during the time that the London Hospital Medical College was coming from obscurity into the front was simply invaluable. As a teacher his reputation stood deservedly very high. The opinions that he expressed were the product of his own matured judgment founded on many years of clinical experience; and though a bold and skilful operator himself, he never advocated any measure unless he had first convinced himself that it was necessary and in the best interests of the patient. Few men in his special line of work have earned or deserved a greater or more widely acknowledged degree of respect. He was trusted absolutely by all who knew him."

Dr. Herman married in 1884 Emily, daughter of Mr. T. Gibbings, of Chichester. He leaves four

sons, one of whom is a member of the medical profession, and one daughter. For the past few years, since his retirement from practice in Harley-street, he had lived at his country house at Cam, near Dursley, in Gloucestershire.

SIR FRANCIS XAVIER FREDERICK MACCABE, F.R.C.P. IREL.

THE death of Sir Francis MacCabe, which we announced last week, occurred on March 3rd at his residence, Sandyford, county Dublin, in his eighty-first year. He was the son of William B. MacCabe, a well-known writer of church history in his time, and was born in Dublin. He received his medical education at the Westminster Hospital, and obtained the Membership of the Royal College of Surgeons of England in 1858. Three years later he received the Licence of the King's and Queen's College of Physicians of Ireland. After a few years' private practice he was appointed resident medical superintendent of the Waterford County Asylum. In 1872 he was transferred to Dundrum Criminal Lunatic Asylum, and in 1876 he gave up lunacy work to become a medical inspector of the Local Government Board. While holding this office he acted in 1879 as a member of the Royal Commission to Inquire into the Sanitary Condition of Dublin. In 1885 Mr. MacCabe left the Local Government Board to become medical member of the General Prisons Board, but in 1888 he returned to the Custom House as medical member of the Local Government Board. In 1892 he received a knighthood and in 1898 he retired. Sir Francis MacCabe brought ability and care to the discharge of his public duties. In private life he interested himself in philanthropic work. He leaves three sons, of whom one is a member of the medical profession.

HENRY GARNETT WILSON, M.B., C.M. EDIN.,

LATE PHYSICIAN TO THE GLASGOW HOSPITAL FOR DISEASES OF WOMEN.

Dr. Garnett Wilson, whose death occurred recently, after a long and trying illness borne with great fortitude, studied in Edinburgh and graduated M.B., C.M. at the University in 1882. He proceeded to Glasgow, where he soon acquired a large practice, his patients recognising in him an able medical adviser and a highly sympathetic personality. He was physician to the Glasgow Hospital for Diseases of Women for a number of years, and showed himself both in his hospital and private practice interested in every advance in his profession and a determination to remain up to date therein. He was an expert angler and a good musician, and his company was greatly enjoyed at many medical gatherings, both in Edinburgh and Glasgow. He leaves a wife and two sons, the elder of whom is at present assistant to Professor R. Muir in the University of Glasgow.

LIVERPOOL EYE AND EAR INFIRMARY.—The annual meeting of this charity was held on March 16th, when the committee announced that the revenue for the past year had almost equalled the expenditure. The premises adjoining the hospital, which had been built for a sculptor's studio at the same time as the hospital, and which formed an architectural part of the building, had been purchased. An anonymous benefactor presented the whole purchase money, £1050, and the committee is now appealing for funds to convert the new premises into a much-needed ear department. The appeal is for £15,000, a portion of which is to form an endowment fund.

Correspondence.

"Audi alteram partem."

CHANGES IN THE BLOOD PRESSURE IN THE CAUSATION OF SURGICAL SHOCK.

To the Editor of THE LANCET.

SIR,—I have read with much interest Mr. A. Rendle Short's Hunterian lecture on this subject in your issue of March 14th. His lecture clears up several of the debatable points in this difficult and important subject. It is now eight years since I delivered the Hunterian lectures on Shock,[1] and since that time several new theories of shock have been brought forward. Most of these, however, are disposed of as untenable by Mr. Short, but some of the conclusions come to by Mr. Short in his lecture cannot, I think, be allowed to pass unchallenged.

For some five years after delivering the Hunterian lectures I worked on the subject of shock, chiefly from the experimental point of view, with Mr. W. Legge Symes. Unfortunately, owing to the pressure of professional work, I was obliged to give up these researches, and the results have never been published, though some useful results were obtained.

The great difficulty in criticising Mr. Short's paper is the lack of any definition of what he understands by the term "surgical shock." Unless physiologists can agree upon a definition of surgical shock it is obviously impossible to arrive at any conclusions as to the causation of this condition. The clinical definition given by Sir Watson Cheyne and quoted by Mr. Short, excellent as it is, is not sufficient, for although it correctly describes the condition of surgical shock as understood by Dr. Crile and myself, it will also equally well describe the condition of patients suffering from a severe toxæmia. I have found that one of the greatest difficulties in dealing with surgical shock is to distinguish between it and toxæmic conditions. Often, no doubt, the conditions are combined, as, for instance, in the case of patients dying after an operation for intestinal obstruction. It seems almost certain, too, that the condition produced by severe burns is not really one of shock, but is due to a toxæmia, although we do not at present know the nature of the poison.

I cannot agree with Mr. Short that shock is ever seen with contracted blood-vessels, nor do I think he brings forward any reliable proofs of such a condition in his lecture. Experiments on blood pressure which depend upon electrical stimulation of nerves must be accepted with the greatest caution. Mr. Symes and I, after numerous experiments, gave up this method, as we found it was impossible to guard against errors due to stimulation of muscles and sympathetic nerves. The test for shock described by Tyrell Gray and Parsons—based on the theory that stimulation of the sciatic nerve causes a fall instead of a rise of blood pressure—we found was quite unreliable. Mr. Short quotes me as accepting the view that the specific gravity of the blood is raised in shock, but he cannot have seen a paper on Some Points on the Experimental Production and Control of the Vascular Atony of Surgical Shock, by Mr. Symes and

[1] THE LANCET, 1905, vol. i., pp. 696, 776, 846.

myself,[2] in which we showed that, on the contrary, the specific gravity falls with the blood pressure. The following extract briefly indicates our conclusions in that paper:—

Fall in specific gravity of the blood implies transudation of tissue fluid into the blood stream. This is confirmed by the accompanying diminution in percentage of the hæmoglobin. In a cat (2·7 kg.) the hæmoglobin, on the Gowers-Haldane scale, fell from 70 to 58, whilst the specific gravity of the blood dropped from 1048 to 1043. This percentage diminution of the hæmoglobin shows that each 100 volumes of blood was diluted (in round numbers) to 120, which, in conjunction with the accompanying fall in specific gravity of the blood, indicates that the transudate had a specific gravity of 1018—that is, that of average lymph. The reaction of the organism, then, to fall of blood pressure is increase in volume of the blood. That such an increase will tend to restore the lost pressure is obvious. It is, therefore, not unreasonable to regard the reaction as protective, and to infer that transfusion is the logical treatment of the condition.

Mr. Short makes the point that the subcutaneous veins are not dilated in shock and gives this as an argument against the correctness of our theory; but surely it is not. The reason why the subcutaneous veins are found to be empty in surgical shock is that owing to the diminished pressure and feeble circulation the blood does not reach them. I do not think that either Dr. Crile or I ever supposed that the condition of the vaso-motor centres was alone responsible for all the phenomena of surgical shock. The mechanism for maintaining the blood pressure and an adequate circulation is an exceedingly complicated one, depending upon the condition of the muscular structures of the body and on that of many other tissues; and numerous other nerve centres in the neighbourhood of the fourth ventricle are doubtless involved. There is yet much to be learnt with regard to the relative importance of these various centres in the causation of surgical shock; but I believe that in the main the theory originally propounded by Dr. Crile, and adopted by me in 1905, will prove to be the correct explanation of the condition known as surgical shock. The apparent anomalies that are discovered in attempting to explain the phenomena of surgical shock will, I think, be found to be due to the fact that at the present time several distinct conditions are confused under this term.

That Mr. Short's conception of surgical shock is totally different from that of Dr. Crile and myself is shown by his description of the "knock-out blow" as a state of shock. It is, of course, nothing of the sort; the condition produced by a "knock-out blow" is one of collapse and is due to temporary paralysis of all the centres at the base of the brain. This is not in any way comparable to the condition of surgical shock seen after an operation.

I am, Sir, yours faithfully,

J. P. LOCKHART MUMMERY, F.R.C.S. Eng.

Hyde Park-place, W., March 17th, 1914.

To the Editor of THE LANCET.

SIR,—In Mr. A. Rendle Short's lecture on the above subject various objections are urged to the view that acapnia causes surgical shock. One of the criteria which appears to the lecturer to be very damaging, if not fatal to the theory, is that the CO_2 content of the venous blood in man shows no fall during shock. But the method of estimating the CO_2 content by Mr. Short is fallacious. His method is to tie a bandage round the patient's arm and then withdraw blood from a vein. Now, immediately after the bandaging the blood below the bandage would absorb an excess of CO_2. Any deduction therefore as to the general content of CO_2 from such a sample of blood is worthless. It may be added that it is the CO_2 content of the arterial blood which is the true criterion. In Yandell Henderson's experiments the CO_2 was always estimated from samples of the arterial blood. I am, Sir, yours faithfully,

Henrietta-street, W., March 14th, 1914. A. G. AULD.

[2] Brit. Med. Jour., Sept. 19th, 1908.

THE ACTIONS OF CHLOROFORM AND ETHER ON THE BLOOD PRESSURE.

To the Editor of THE LANCET.

SIR,—As Dr. H. P. Fairlie in THE LANCET of Feb. 28th kindly refers to a remark of my own I should like to make some comment upon his interesting communication. I am the more anxious to do this as I think that his general conclusion, if not controverted and if widely acted upon, is likely to lead to many unfortunate results. This conclusion is that chloroform is a more desirable anæsthetic than ether for long operations or for those where considerable shock is anticipated. Now, in spite of his observations, I would urge that there is an enormous preponderance of evidence from experience in exactly the opposite direction. Nor can his theoretical explanation, quoted from Brown, that chloroform narcotises the vaso-motor cells and ether does not, be accepted; so far as I can see it is pure assumption. Dr. Fairlie does not deny, as indeed the facts prevent him from doing, that with chloroform there is greater fall of blood pressure and more marked shock at the time of operation than with ether. It is afterwards that he believes that ether more often leads to delayed recovery or to fatality. He must bring definite proof of this in a sufficient number of cases before we can assume that chloroform, with its undoubted dangers on the table, is the anæsthetic to be chosen. With modern methods of giving ether and proper use of preliminary alkaloids in suitable cases, the after-effects of ether compare most favourably with those of chloroform; and the delayed recovery that Dr. Fairlie alludes to is, from the nature of the action of the two drugs, far more to be dreaded after long inhalations of chloroform than of ether. In my own experience, as well as in that of many others, ether is especially to be preferred in long and severe operations, and I believe that to encourage the opposite practice would be to lead many inexperienced administrators into difficulties from which they would find it extremely hard to extricate their patients. I am, Sir, yours faithfully,

Harley-street, W., March 16th, 1914. J. BLUMFELD.

To the Editor of THE LANCET.

SIR,—Mr. A. Rendle Short's masterly lecture on Surgical Shock in your issue of March 14th, disposing as it does so effectually of many recent and fascinating theories, is a very complete answer to Dr. H. P. Fairlie's article on Blood Pressure during anæsthesia by chloroform and ether respectively. It is established that, in shock, the left heart and the arteries are empty owing to "bleeding" into the veins of the relaxed muscular system, and the practical corollary is that no anæsthetic should ever be given to such a depth as to relax the muscles completely. As a matter of fact, such deep anæsthesia is necessary very seldom indeed,

because when the depth of anæsthesia is kept moderate (i.e., conjunctival reflex gone, corneal reflex present but sluggish, light reflex brisk), very little of the surgeon's time is wasted if, in a laparotomy for instance, firm but gentle continuous retraction is made upon each layer of muscle as divided, whereby the muscle is paralysed for the time being by local fatigue. Given by an anæsthetist chloroform should be no more dangerous than ether. It is a little more toxic to the tissues, but it does not so frequently produce prolonged after sickness, which is, in my opinion, the cause of the delayed fall of blood pressure which Dr. Fairlie deprecates. This after-sickness is not usually the *direct* result of ether overdosage, but is derived from the sequence or vicious circle: (1) disagreeable taste of ether, (2) consequent dislike of, and abstention from, food, (3) until starvation causes (4) mild acidosis with renewed vomiting. There is to my mind no doubt that the outstanding advantage of the N_2O-oxygen + spinal method of analgesia is not so much its relative (and absolute) safety as the surety of a comfortable recovery.

Mr. G. McCall Smith's opinion that chloroform is always dangerous when deep anæsthesia is required is perfectly sound, but my experience of the ether-chloroform sequence differs widely from his. Probably the explanation of this difference is to be found in the common failure to distinguish between anæsthesia and analgesia. If anæsthetists, by exercising constant watchful care and observation, would make a practice of maintaining a depth sufficient, and only sufficient, for the purposes of each operation—and it is not desirable or necessary that the patient should have to be strapped or held down—then we should not be shocked by reports of fatalities nearly so frequently as is unfortunately the case at present.

In midwifery, too, chloroform is perfectly safe so long as it is never pushed further than "the obstetric degree," or, in other words, never beyond analgesia; but when deeper sleep is imperative, as for the application of the forceps or other operation, then chloroform is peculiarly dangerous, since the patient diverges from the normal in three important respects—(1) the deep but irregular breathing, (2) the temporarily impaired "vital capacity," and (3) the presence in the blood of unusual and frequently toxic bodies derived from the placental circulation. Therefore, in operative midwifery Mr. McCall Smith's decision to use only ether is worthy of wide imitation.

I am, Sir, yours faithfully,

DONALD J. MUNRO.

Upper Tulse Hill, S.W., March 16th, 1914.

METHODS OF INCREASING THE ACCURACY AND DELICACY OF THE WASSERMANN REACTION.

To the Editor of THE LANCET.

SIR,—After our first perusal of Dr. Thiele and Dr. Embleton's paper in THE LANCET of Feb. 21st we must confess that we debated whether we should treat it seriously, and it was only our fear that some of your readers might attach undue importance to it which induced us to record our absolute dissent.

If Dr. Thiele and Dr. Embleton's statements were to stand unchallenged it would obviously appear that for three years we have not only wasted our time, but have also disseminated incorrect diagnoses in a serious percentage of some 7000 cases. The point we wished to make was, not that the observations of these authors were incorrect under the somewhat abnormal conditions they had selected, but that their wide generalisations, embracing entirely different conditions, were totally unfounded. We still cannot understand whether they profess to uphold their assertions as logical conclusions.

In their replies to Dr. Browning and ourselves they appear to have wandered from the point. With interesting dexterity they seek to confound us by garbling the meaning of a passage in one of our papers, and thus demonstrating that Dr. Browning and we have stultified ourselves. They also quote an alleged statement by Fildes, which was not published over the signature of Fildes and which is misleading. Finally, they assert that we have never investigated the subject, although how they have derived their knowledge of this is beyond our comprehension. It must be remembered that in the course of one's work one makes many observations and verifies a number of fundamental experiments of others without troubling the medical press about them. They represent the controversy as raging round the relative values of their lecithin antigen and cholesterin antigens, and continually acclaim the fact that their antigen will "fix" in a quantity as small as three-millionths of a gramme. To the uninitiated this may appear to be an extremely potent reagent, but on examination we found that the figure for the despised "crude heart extract" without cholesterin could be represented as being almost identical.

If we regard the point at issue to be the relative value of certain antigens rather than the justification for their generalisations, we must point out that on one side stand the observations of Dr. Thiele and Dr. Embleton, while on the other are ranged the investigations of workers in Great Britain, Germany, America, and France. The point therefore resolves itself largely into an inquiry into the relative credibility of these persons.

In this situation we are content to leave the discussion.—We are, Sir, yours faithfully,

JAMES MCINTOSH,

London Hospital, E., March 17th, 1914. PAUL FILDES.

THE SOCIETY OF APOTHECARIES OF LONDON AND UNQUALIFIED MEDICAL PRACTICE.

To the Editor of THE LANCET.

SIR,—I am desired to inform you that at a recent meeting of the Court of Assistants of the Society of Apothecaries of London the following resolution was passed:—

That it is desirable that the attention of the medical profession should be drawn by means of notices in the medical papers to the prevalence of unqualified medical practice and the advisability of reporting cases of such practice to the society, to be dealt with by the society under the penal powers contained in the Apothecaries Act, 1815.

Under the powers referred to in the resolution the society is enabled to recover from an unqualified practitioner a sum of £20, and it has been found in many cases that this penalty has been very effective in putting down quack practitioners. In recent years very few cases have been brought to the notice of the society, but it is not to be supposed that the society has become in any way unwilling to take up such cases, and, in fact, is very anxious to do so both in the interests of the public and the medical profession.—I am, Sir, yours faithfully,

A. MOWBRAY UPTON,

London, E.C., March 16th, 1914. Clerk to the Society.

INFANTILISM AND ARRESTED DEVELOPMENT.

To the Editor of THE LANCET.

SIR,—In the leading article on the above subject in THE LANCET of March 14th the writer is so generous in his kindly appreciation of my Hunterian lectures that it must seem a little ungracious to criticise his remarks. But in some respects he credits me with so much more than is my due that I feel bound, with your permission, to comment upon them.

Thus, he writes of "Mr. Gilford's unproved assumption that a fluctuation is a variation which can be attributed to definite causes, whereas a mutation cannot be explained except by the catchword of heredity." I cannot claim to be the originator of either of these statements. That about fluctuation, as I wrote it, is not mine, but is commonly known as an essential fact of genetics; and as to the relation of heredity to mutation it is inconceivable that any biologist should attempt to explain mutations in any such way. Certainly, I should not think of doing so. Moreover, no biologist regards the heredity of mutations as anything less than fundamental. My very kind critic is quite consistent when he goes on to say that this division into fluctuations and mutations does not afford a sound basis for a scientific classification of infantilism, but he will, I feel sure, change his opinion if he should consult any competent biologist about the difference between these two kinds of variation.

As reporter on the subject of internal secretions at one of the sections of the last International Medical Congress it fell to my lot to review recent progress in this department of medicine. It was evident that two dissimilar kinds of work are being done upon the ductless glands—one by the laboratory student, the other by the embryologist and pathologist. That from the former source is copious, ingenious, intricate, sometimes bewildering, often contradictory, seldom conclusive. The latter is meagre and suggestive, rather than useful or reliable. But what is most impressive is the way in which this confused mass of half-baked, wholly indigestible, material is worked up into seductive hypotheses for the benefit of the general medical public. This state of affairs is largely due to the laboratory method of working, which tends to encourage stuffy and parochial, as well as diligent, habits of working and thinking. Attention is fixed so engrossingly upon one spot that general principles are lost sight of, their place being taken by inflated particulars. The only method of dealing with this narrowness and distortion of vision, or myopic astigmatism, is to look at the subject from the broad aspect which is furnished by the use of genetics and general biology. It is from this wider point of view that I have suggested a classification of the forms of infantilism, and I quite understand that no one can appreciate its advantages unless he possesses some knowledge of genetics.

While the value of laboratory work, and of the theory of hormones in particular, is fully recognised, it is highly important that facts obtained by experiment should not be too obtrusive. Undoubtedly their proper place is in a position subordinate to the teachings of general pathology and biology. The observer who so uses them will then be less inclined to see the influence of a deficiency of hormones in every case of infantilism. And should he ever have the chance of examining a case of ateleiosis he will recognise its distinctive characters and notice its relations with cretinism and other forms of infantilism without assuming that the occasional occurrence of common features necessarily implies a community of origin.

I am, Sir, yours faithfully,

HASTINGS GILFORD, F.R.C.S.Eng.,
Hunterian Professor, Royal College of Surgeons of England.

Reading, March 15th, 1914.

DIFFUSE CRANIAL OSTEOMYELITIS SECONDARY TO NASAL SINUS SUPPURATION.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Jan. 31st Mr. W. G. Porter, of Edinburgh, reported an interesting case of the above disease in which the surgical measures promptly adopted by him brought the process to a standstill.

The point upon which stress is laid in the report is that the osteomyelitis, which was thus cured, appeared subsequent to an external operation upon the sinus, and the particular interest lies in this, that the case having recovered, it seems to form an exception to what I had observed in the literature of this peculiar disease—namely, that no case of recovery from diffuse osteomyelitis had been recorded when the disease had followed an external operation upon the frontal sinus.

Before admitting any case, however, to be an exception to this rule, we must be quite clear that the osteomyelitis did not exist prior to the operation.

Now, in Mr. Porter's case osteomyelitis affecting the sinus wall did exist before the first operation; indeed, it was owing to the effects of the osteomyelitis that the first operation was undertaken. So that from one point of view the case may be looked upon as one of *pre*-operative and *not* of *post*-operative osteomyelitis.

But there is another point of view. Cranial osteomyelitis associated with nasal sinus suppuration is of two varieties: the localised, which remains limited to the walls of the sinus, and is not at all uncommon; and the diffuse, which spreads widely in the general bony cranium, and is quite rare. In Mr. Porter's case it is conceivable that the osteomyelitis that appeared in the walls of the sinus before operation was of the simpler localised type, and that it only became diffuse after the operation had traumatically damaged the patient's powers of resistance.

In other words, Mr. Porter's case is difficult to classify. For this reason Mr. Porter and I, who have been exchanging views upon the matter, both agree that in addition to (1) the class of case in which the osteomyelitis appears spontaneously, and (2) the class in which the disease comes on as a surprise after an operation upon a quiet case, there is a *third* variety, in which the osteomyelitis has appeared in the sinus wall spontaneously and independent of operation, but in which no one can be sure whether it has been of the self-limiting or of the spreading type.

To this class belongs Mr. Porter's case. So that, strictly speaking, we cannot claim it either as falling in with, or as running contrary to, the usual rule.

I am, Sir, yours faithfully,

Brook-street, W., March 16th, 1914. DAN MCKENZIE.

LEGISLATION FOR INEBRIATES.

To the Editor of THE LANCET.

SIR,—At the time when new legislation for inebriates is before Parliament your leader on the last report of H.M. Inspector under the Inebriates Acts is very opportune. It seems to me, however, that the writer of this article in his endeavour to show the real need for better laws relating to inebriates and better administration of those laws, and in an endeavour to shed more light on the nature of inebriety, actually makes confusion still further confounded in regard to this latter point.

Whilst agreeing with Dr. Branthwaite's definition of "inebriate," as applied to a minority of habitually drunken persons, he objects to its application to those whom he regards as forming the majority of inebriates. These latter he considers to be inebriates, not from psycho-neurotic fault, but rather from environmental conditions. I do not know on what experience of inebriety and of inebriates the opinions are based, but I do know that Dr. Branthwaite's definition, which he calls "narrow," is the result of more than 30 years' unrivalled experience and close study of every type of inebriate met with in private practice, high-class retreats, and certified inebriate reformatories. My own experience of more than 12 years' work, although restricted to better-class well-educated inebriates, bears him out entirely.

In order to form an opinion as to the mental equipment of an inebriate it is necessary to be intimately acquainted with him both under the influence of alcohol or drugs and during many weeks of enforced or semi-enforced sobriety. My experience of some hundreds of better-class inebriates (both voluntary patients and those who are more or less compulsorily committed under the Inebriates Acts) leads me to doubt whether any one of them can be said to have had anything like a sound psycho-neurotic integrity. While environment plays a very important part in the development of inebriety, it is unquestionably a purely secondary part, persons of sound psycho-neurotic make-up being able to live in similar environments as moderate users of alcoholic liquors.

My experience makes me agree entirely with Dr. Branthwaite's opinion that the fundamental cause of inebriety in nearly all cases is psycho-neurotic fault, defect, peculiarity, call it what you will, generally congenital, but sometimes acquired as the outcome of accident (physical or pyschic trauma) or faulty early training, and that such fault may be trivial, or so apparent as to merit being spoken of as mental defect in the modern acceptation of the term. Whether, however, the majority of inebriates are such owing to psycho-neurotic fault or environmental conditions, the writer of this article, Dr. Branthwaite, myself, and others, who know something of inebriety, all come to the same conclusion—namely, the necessity of further legislation to reach a very large number of inebriates who are out of the reach of existing legislation. Stronger powers are necessary to bring them under satisfactory control and treatment.

Any new legislation for inebriates, such as is suggested by the Bill now before Parliament, must make it possible to reach the curable inebriate far more readily than at present is possible, and the law when enacted must be far more effectually and intelligently administered than is the case with the present Acts, which, ineffectual and gravely deficient as they are, might have been more useful than they have been had they been better administered. There is undoubtedly a better understanding of the real nature of inebriety than there was by the inebriate, his relatives, friends, and his family doctor. With this knowledge better results from treatment are following, due largely to intelligent coöperation on the part of the inebriate and a better understanding of the nature of his trouble. With new legislation dealing with the feeble-minded and with inebriety, as already enacted and comtemplated, real advance should certainly be made in a matter of vital importance to the individual and to the community.

I am, Sir, yours faithfully,

J. W. ASTLEY COOPER,
Medical Superintendent.

The Ghyll Retreat, near Cockermouth, March 16th, 1914.

*** We remain of our already expressed opinion, which was founded upon experience, general as well as particular.—ED. L.

"THE FAMILY ENCYCLOPÆDIA OF MEDICINE."

To the Editor of THE LANCET.

SIR,—It appears to me that the important point in connexion with this matter is being overlooked. The medical profession will readily acquit the eminent authorities whose names appeared in connexion with the publication of any intention of advertising themselves, but it appears to be a fact that they did lend their countenance to an enterprise directly contrary to the best interests not only of the medical profession, but also of the general public. I am, Sir, yours faithfully,

Pembroke, March 16th, 1914. A. HURRELL STYLE.

AN ASSOCIATION OF TUBERCULOSIS MEDICAL OFFICERS.

To the Editor of THE LANCET.

SIR,—The appointment of tuberculosis medical officers having now become general throughout the country it has occurred to me that the formation of an "association" of such officers is a matter worthy of consideration. If such an association came into existence tuberculosis medical officers would be provided thereby with a means of meeting, and thus have the opportunity afforded to them of discussing together and amongst themselves various topics connected with their particular field of labour. This, I think, would be a most desirable thing. It would tend to their mutual benefit and also to the advancement of the treatment of the patients of whom they have charge. Cases could be compared, opinions interchanged, difficulties met with in practice discussed, &c.

Local authorities are framing a general attack upon tuberculosis, and the tuberculosis medical officer is the important factor of the authority responsible for the treatment of the disease in their area. With an association such as I suggest a much greater benefit would accrue from the interchange of knowledge thus afforded than by each individual officer working single-handed in his own field. The object of the attack on the disease is ultimately—and in the shortest possible space of time—to stamp it out altogether. We ought to leave nothing undone which will assist us in our efforts to bring about this result.

In such, then, lies the object of my appeal, and I hope to see some expressions of opinion on the

matter in reply thereto. If the general opinion is in favour of an association being founded a preliminary meeting formally to discuss matters in connexion therewith could easily be called. Such an association as I suggest has, I believe, already been formed in Ireland.

I am, Sir, yours faithfully,
J. T. CROWE,
Tuberculosis Medical Officer for Leicestershire.

Leicester, March 17th, 1914.

THE WASSERMANN REACTION.

To the Editor of THE LANCET.

SIR,—The public health committee of the borough of Wimbledon have made arrangements for the carrying out of the Wassermann reaction on behalf of the residents in the district. I am afraid that Dr. L. C. Parkes's arrangements at Chelsea, as set forth in his letter in THE LANCET of Nov. 29th, 1913, would, to a certain extent, defeat his objects, as he demands that the name of the patient shall be supplied. My authority have agreed that no names shall be supplied, so that there shall be no question of anything being revealed. In order to get over the difficulty of Section 133 of the Public Health Act the practitioners are asked to certify (1) that the patient on whose behalf the Wassermann test is being made is a resident within the borough, and (2) that the patient is not in a position to pay the fee for such examination. Thus I think there will be no difficulty which might be encountered if the patients feared that their names were to be given to a third party.—I am, Sir, yours faithfully,

EDWIN H. NASH,
Wimbledon, March 14th, 1914. Medical Officer of Health.

ACUTE SUPPURATIVE OTITIS MEDIA IN SCARLET FEVER.

To the Editor of THE LANCET.

SIR,—May I ask through the medium of your columns for an answer to an important point as regards the infectivity of the pus from the ears of a child suffering from suppurative otitis of scarlet fever? Is this discharge permanently infective and liable as long as it lasts to convey scarlet fever to another person? If not, for how long does such an infectivity last? and when may it be said to be safe to allow a child out of quarantine, though it still has a discharge from the ears?

I venture to think that a clear and authoritative answer to these questions would help many practitioners besides myself.

I am, Sir, yours faithfully,
March 16th, 1914. JOHN MACKERN, M.D. Cantab.

THE TREATMENT OF WARTS.

To the Editor of THE LANCET.

SIR,—In Home and Foreign Notes of the current issue of THE LANCET your Budapest correspondent details a "new" method of treating warts. I have been employing the method (prolonged covering with rubber plaster) for warts and corns for at least eight years, and the idea which originated it explains the mode of action. Eight years ago I had my first Turkish bath, and noted the excessive maceration of the epidermis under the influence of prolonged perspiration. I had then a very painful corn on the sole of my foot, and next day subjected it to prolonged perspiration by applying a star of three little strips of "Z.O." surrounded by a corn ring. Reapplication continuously for three weeks brought out the whole corn in a "wash leather" state, and it has never recurred.

And this "stewing in its own juice" is the least painful as well as the most certain cure for hard corns (and warts). Silver nitrate is the most certain cure for soft corns.

I am, Sir, yours faithfully,
March 13th, 1914. M.B.

THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—I wish to explain why, at the conference of Local Medical and Panel Committees held in London on Friday, March 13th, I asked that Motion 29 on the agenda should contain an expression of opinion that medical referees appointed under the Insurance Act should be non-panel practitioners. In a small area like the Isle of Wight there is not enough work for a whole-time appointment, and doubtless this is the case in many other areas. I take it that in every such area there are non-panel practitioners in touch with the local profession who would gladly do the work entailed providing the conditions are satisfactory; such men would be more independent in their judgment and better able to give an unbiased opinion. Also it is, to my mind, important at this juncture not to widen the breach between the panel and non-panel practitioners. The latter are constantly saying that the Insurance Act has nothing to do with them, and therefore that it is futile for them to belong to various bodies set up under the Act. Why should not this opening be taken to prove that this is not the case? Undoubtedly they will be required in other capacities in the future under the Act as it develops, and I think it is only right to take the first opportunity to further a more sympathetic attitude between panel and non-panel men.

As the chairman of the conference would not listen to what I wanted to point out, and as he would not accept the alteration I suggested in the wording of the motion, I think it is only due to myself and my committees to send this letter to THE LANCET, hoping you may find space for it.

I am, Sir, yours faithfully,
J. W. PRIDMORE,
Honorary Secretary to the Isle of Wight Local Medical and Panel Committees.

Ryde, I.W., March 16th, 1914.

A FUNDAMENTAL QUESTION IN DIET.

To the Editor of THE LANCET.

SIR,—What effect has cooking on the vitamines? I do not know what they may be, but it is my business to give advice on diets, and I learn (*a*) that they are essential, and (*b*) that they are destroyed by cooking. Therefore I think the title to this note is justified. I am, Sir, yours faithfully,

London, March 19th. CIVIS.

*** We have re-stated the question in an annotation, hoping that some physiologist may assist us to reply.—ED. L.

AN AGED COUNTESS.—The death of the Countess of Devon, in her 100th year, is announced at Cheltenham. It may be recalled that there is at least one case on record of a titled lady having lived for more than a century—namely, the old Countess of Desmond, who died in 1604 at the reputed age of 140.

THE NATIONAL INSURANCE ACT.

THE FABIAN SOCIETY'S REPORT.

A SPECIAL supplement of the *New Statesman*, published on March 14th, contains the interim report of the committee of inquiry into the working of the National Insurance Act instituted by the Fabian Society Research Department last July. We shall refer to this report in an early issue.

LOCAL MEDICAL COMMITTEE FOR LONDON.

The following is the list of nominations received by the Metropolitan Counties Branch of the British Medical Association for the election of a Local Medical Committee for the County of London:—

Panel Practitioners.

Borough of Marylebone—David Steel Roxburgh and John Pollock Simpson (*contest*).
Borough of Woolwich—Albert Edward Thomson.
Borough of Greenwich—W. H. Reed and Christopher Whewell Hogarth (*contest*).
Borough of Deptford—William Henry Payne.
Borough of Bermondsey—Benjamin Arthur Richmond.
Borough of Southwark—J. V. C. Denning.
Borough of Lambeth—Herbert Taylor.
Borough of Camberwell—George Beckett Batten.
Borough of Wandsworth—A. C. B. Biggs.
Borough of Battersea—John Theodore Richards.
Borough of Fulham—John Fletcher.
Borough of Chelsea—John James Orr.
Borough of Hammersmith—J. A. Butler.
Borough of Kensington—Herbert Henry Mills.
Borough of Paddington—John Alexander Angus.
Borough of Westminster—Albert Ernest Cope.
Borough of St. Pancras—Thomas Marshall.
Borough of Islington—J. J. A. Sherry.
Borough of Stoke Newington—Alfred Welply.
Borough of Hampstead—E. Claude Taylor.
Borough of Shoreditch—David Livingston Hamilton and Major Greenwood (*contest*).
City of London—John James Scanlan.
Borough of Holborn—Michael Joseph Ryan.
Borough of Finsbury—Robert Drummond MacGregor.
Borough of Hackney—Thomas Francis Keenan.
Borough of Bethnal Green—G. Henderson.
Borough of Stepney—W. Owen Williams and Percy T. Goodman (*contest*).
Borough of Poplar—H. J. Cardale.

Non-Panel.

Three nominations were required for each group of boroughs, except Marylebone, for which one only was required.

Marylebone—Charles Wynn Wirgman.
Group I. Woolwich, Greenwich, Deptford, Lewisham—No nominations.
Group II. Bermondsey, Southwark, Lambeth, Camberwell—No nominations.
Group III. Wandsworth, Battersea, Fulham, Chelsea—No nominations.
Group IV. Hammersmith, Kensington, Paddington, Westminster—W. H. Burnhill and Wilfred Kingdon.
Group V. St. Pancras, Islington, Stoke Newington, Hampstead—No nominations.
Group VI. Shoreditch, City of London, Holborn, Finsbury—J. H. Porter and W. F. Roe.
Group VII. Hackney, Bethnal Green, Stepney, Poplar—A. G. Southcombe, Gilbert Nicholson, and M. C. Corner.

Six Representatives of the Medical Staff of Hospitals.

W. McAdam Eccles, Thomas Watts Eden, James Galloway, N. Bishop Harman, Vincent Warren Low, Lauriston E. Shaw, Fred. J. Smith, George Robertson Turner (*contest*).

One Poor-law medical officer.—H. E. Garrett.
One medical officer of health.—No nomination.
One registered medical woman.—Mina Dobbie.

NATIONAL MEDICAL UNION.

In reference to the resolutions circulated on March 12th by the London Organisation Committee of the National Medical Union to all practitioners resident in the County of London and not on the panel, repudiating the action of the Metropolitan Counties Branch of the British Medical Association in attempting to elect a Local Medical Committee for London, we have been asked to publish the following statement of the position taken up by the National Medical Union:—

The proposals of the Metropolitan Counties Branch are made with a view to the committee so to be elected obtaining statutory recognition by the Insurance Commissioners as "representative of duly qualified medical practitioners resident in the county," such committee when elected and recognised to have the duties mentioned in Section 62 of the Insurance Act of 1911.

Section 62, 1911, reads as follows:—

Where a Local Medical Committee has been formed for any county or county borough or for any area for which a District Committee has been formed and the Insurance Commissioners are satisfied that such committee is *representative of the duly qualified medical practitioners resident in the county*, county borough, or such area as aforesaid, they shall recognise such committee, and, where a Local Medical Committee has been so recognised, it shall, subject to the Regulations made by the Insurance Commissioners, be consulted by the Insurance Committee or District Committee, as the case may be, on all general questions affecting the administration of medical benefit, including the arrangements made with medical practitioners giving attendance and treatment to insured persons, and shall perform such other duties, and shall exercise such powers as may be determined by the Insurance Commissioners.

The Amending Act, Section 32, of 1913, provided that the opinions and wishes of the medical practitioners who have entered into the agreement should be ascertained by Insurance Committees through Panel Committees representative of the panel practitioners. Such Panel Committee has been formed in London, and it is further to be noted that by the Amending Act it is made eligible for recognition as the Local Medical Committee above described in Section 62 of the principal Act.

The London Organisation Committee of the National Medical Union bases the recommendations announced in its circular on two grounds: 1. The numerical basis of the election proposed by the Metropolitan Counties Branch renders it quite unrepresentative of the whole profession resident in the County of London, and on that ground it would be ineligible for statutory recognition and illegal if recognised. 2. The duties and sphere of action of the Panel Committee and Statutory Medical Committee respectively in London being as above described, and the situation with regard to panel and non-panel practitioners in London being what it is, the London Organisation Committee of the National Medical Union regards the attempt by the Metropolitan Counties Branch to set up a statutory committee on the above lines as calculated to involve the non-panel practitioners in London in an appearance of lending support to the present arrangements for medical benefit under the Insurance Acts, whereas, as a matter of fact, their aim and object is to proclaim and evince in every possible way their determined opposition to the same.

NURSING UNDER THE INSURANCE ACT.

At a conference convened at Westminster by the Association of Approved Societies Sir Victor Horsley, as chairman of a subcommittee appointed to consider a scheme for the nursing of the insured, submitted the outlines of a proposal. The committee considered that the Commissioners should set up a special nursing fund comparable in constitution and administration to the special mileage fund. The Approved Societies could not, as a whole, add nursing benefit to existing benefits, and the need was urgent. The report was received but not adopted, the discussion showing that delegates

present were not authorised by their societies to support the proposals made.

DERBYSHIRE INSURANCE COMMITTEE.

At a recent meeting of the Derbyshire Insurance Committee it was reported that the Insurance Commissioners had allocated £1000 out of their special fund to the county for mileage for practitioners whose patients lived in distant or inaccessible places. It was asked whether certain sanatoriums had refused to receive patients who had not been vaccinated. The county medical officer of health, Dr. Sidney Barwise, replied that these were private institutions carrying out their own rules. The question was then asked whether when the county sanatoriums were built there would be a like refusal with regard to admission to them. To this the clerk to the committee answered in the negative, but a member insisted upon a reply from Dr. Barwise who answered that "people would have to obey the law." A report of the Sanatorium Subcommittee recommended the committee to pay to the county council for sanatorium treatment for insured persons, and for their dependents recommended for sanatorium benefit by the committee, at the rate of 7½*d.* per insured person per annum. This was discussed and referred for further consideration to a joint committee representing insured persons and the county council.

THE LEICESTER UNION OF MEDICAL PRACTITIONERS.

At the second annual meeting of the Union, held at the Public Medical Service Buildings, Leicester, Dr. R. Wallace Henry was elected president, Mr. J. B. Pike vice-president, and Dr. A. V. Clarke treasurer. The secretary reported that the membership had increased during the year by 105. Arrangements had been made to enable members to obtain without any charge legal advice on matters connected with the relations between themselves and their patients, to have debts collected, and insurances effected on extremely favourable terms. The treasurer reported that there was a balance in hand of £132 18*s.* The committee was authorised to consider the desirability of federating with the National Medical Guild. The meeting was followed by the annual meeting of the Leicestershire and Rutland Public Medical Service which is managed by the Union. Reports were presented from the various subdivisions of the service which showed that there were over 80,000 subscribing members (uninsured persons); that the year's work had been done under conditions which were satisfactory alike to medical men and patients, and that the financial results were most satisfactory. Suggestions for further improving the work of the service were referred to the committee.

A MEDICAL PRACTITIONER VINDICATED.

Hasty and undeserved censure has frequently been applied to the medical profession in connexion with work done under the Insurance Act, particularly with regard to alleged malingering. In a proved case of malingering, for which a sentence of a month's hard labour was recently imposed at the West Ham police-court, the magistrate was reported as having said that he would have imposed a more severe sentence if the prisoner had not apparently "been encouraged in his offence by a gentleman in a responsible and honourable position." The prisoner was stated to have earned over £10 in wages during a period in which he was drawing 10*s.* a week sick benefit upon a succession of medical certificates, and although in a newspaper report before us no names are mentioned, it is obvious that the magistrate's censure was directed against the medical man on the panel who gave the certificates. A few days later the magistrate, Mr. R. A. Gillespie, again mentioned the case and made a handsome retractation of his observations so far as they referred to the medical practitioner, saying that they were based upon statements made on behalf of the prosecutors. He further said that investigation had shown that the remarks made by the prosecuting advocate were in no way justified, and that the following resolution had been passed by those charged with the inquiry: "That this committee having heard the statement of Mr. John Jordan Harvey, express their sympathy with him and their unabated confidence in his honour and integrity, and undertake to use every effort to get him publicly vindicated." Mr. Gillespie was pleased to say that he was able to come to the same conclusion that the doctor's certificates were *bonâ fide*, and that he had no reason to believe that he in any way assisted the prisoner in his false representations. Mr. Harvey is to be congratulated upon the prompt and satisfactory manner in which his reputation has been cleared, and credit should also be given to newspapers, which refrained from mentioning any name in a case in which it was clear that one side only had been heard.

AN INQUIRY AT THE INSURANCE COMMISSION.

On Friday and Saturday mornings of this week public inquiries are being held at the National Insurance Commission, Buckingham-gate, into the desirability or otherwise of retaining two medical practitioners upon their respective panels.

"SURPLUS FUNDS" IN LONDON.

At a well-attended meeting of panel doctors with small lists, held on Tuesday, March 17th, at 12, Thayer-street, W., the following resolutions were passed:—

1. That a committee be formed to arrange for a deputation (*a*) to members of the Government, or (*b*) to the Insurance Commissioners, or (*c*) to the Insurance Committee, or to more than one of them, in order to represent to them that the requirements of the Insurance Act, 1911, in respect of the allocation or assignment of insured persons to doctors on the panel are not being carried out; to inquire why they have not been carried out; and to ask what alternative proposals, equitable to the doctors working the Act, are put forward by these bodies.

2. That this meeting of the London panel doctors asks the Commissioners not to sanction the agreement arrived at between the London Insurance and the Panel Committees as regards the allocation of surplus funds, on the grounds that the agreement does not take into consideration the responsibility incurred by doctors on the panel for treating unallocated persons as required by the Medical Benefit Regulations. The meeting is of opinion that this responsibility does not vary directly with the size of a doctor's list.

3. That this responsibility be measured for each quarter by the number of new patients accepted for treatment during that quarter, and that the unallocated funds be divided in proportion to these numbers.

4. That copies of these resolutions be sent to the Commissioners, the London Insurance Committee, the Panel Committee, and to the medical press.

Only a limited number of men voted for resolution 3, which was carried by a small majority. The feeling of the meeting was absolutely for the

exclusion from participation in any surplus funds of all doctors with 2000 or more persons on their lists.

The meeting was convened by Dr. A. R. Eates, who acted as temporary honorary secretary.

FAILURE TO EXAMINE A PATIENT.

At an inquest held recently at Westminster it was proved that the deceased, a foreman sewerman, had complained of pain in the abdomen and had been given a bottle of medicine by his panel doctor. He became worse and had paid another visit to the same gentleman, who had then given him a different medicine, telling him that he was suffering from rheumatism, but had not at either visit made any examination of the patient, who later was taken ill at his work and died in a cab on his way to hospital. Post-mortem examination showed that there had been tuberculous cavities in both lungs and a verdict of death from natural causes was returned, the jury adding that they wished to censure the panel doctor for failing to make an examination. This censure the coroner endorsed, expressing the opinion that if a medical man undertook to attend insured persons it was his duty to do his work with thoroughness.

Medical News.

UNIVERSITY OF BRISTOL.—At the Second Examination for the degrees of M.B., Ch.B., held recently the following candidates were successful:—

Frederick Christopher Ashley Frith, Douglas Leonard Lees, George Strickland Lewis, and Arthur Denis Symons.

Dr. Nierenstein, lecturer in bio-chemistry, has been appointed to deliver a short course of lectures in Immuno-chemistry during the month of May.

UNIVERSITY OF LONDON.—Dr. Frederick Taylor has been reappointed a member of the General Medical Council for 1914–15, and Sir William Collins, K.C.V.O., has been appointed representative of the University at the celebration of the 300th anniversary of the foundation of the University of Gröningen in June and July next. The following have been appointed staff examiners for 1914–15: Bacteriology, Professor L. S. Dudgeon; Anatomy, Mr. Alexander Macphail and Professor A. Melville Paterson; Anthropology (Physical), Professor A. Keith, F.R.S.; Forensic Medicine and Hygiene, Dr. William A. Brend and Dr. E. P. Manby; Medicine, Dr. Norman Dalton, Dr. Humphry Davy Rolleston, Dr. W. B. Warrington, and Dr. James Galloway; Mental Diseases and Psychology, Dr. Maurice Craig and Dr. William McDougall, F.R.S.; Obstetric Medicine, Dr. Henry Russell Andrews and Professor Walter C. Swayne; Pathology, Professor Robert Muir, F.R.S., and Professor F. W. Andrewes; Pharmacology, Professor A. R. Cushny, F.R.S., and Dr. James A. Gunn; Physiology, Mr. Joseph Barcroft, F.R.S., and Professor E. H. Starling, F.R.S.; State Medicine, Dr. John William Henry Eyre and Dr. Thomas Morison Legge; Surgery, Mr. Frédéric F. Burghard, Mr. William F. Haslam, Mr. Henry Betham Robinson, and Mr. William Turner; Tropical Medicine, Professor F. M. Sandwith and Professor Sir Ronald Ross, K.C.B., F.R.S. Mr. H. L. Eason has resigned his membership of the external council. A course of eight lectures on the Rate of the Blood-flow in Man in Health and Disease will be given in the physiological laboratory of the University, South Kensington, by Dr. G. N. Stewart, professor of experimental medicine, Western Reserve University, Cleveland, U.S.A., at 5 P.M., on Tuesdays, May 5th, 12th, 19th, and 26th, and June 2nd, 9th, 16th, and 23rd, 1914. A University studentship in physiology will be awarded to a student qualified to undertake research in physiology, and will be tenable in a physiological laboratory of the University or of a school of the University. The studentship will be awarded annually if a candidate of sufficient merit shall present himself, but no student is eligible for re-election.

UNIVERSITY OF CAMBRIDGE.—Mr. V. C. Pennell, now at St. Thomas's Hospital, has been elected to a Fellowship at Pembroke College. The following medical degree has been conferred: B.C., F. W. Watkyn-Thomas, Trinity. On March 14th the grace in favour of applying to the Board of Education for a Government grant to the medical school of the University was adopted by the Senate. The placets numbered 268, the non-placets 235, giving a majority of 33 in favour of applying for the grant.

KING EDWARD'S HOSPITAL FUND FOR LONDON.—The honorary secretaries of King Edward's Hospital Fund for London have received, from the executors of the late Sir Julius C. Wernher, Bart., securities to the value of £269,644 7*s.* 2*d.*, being a first distribution on account of the one-twelfth share of the residuary estate bequeathed by him to the capital account of the Fund. The probable total amount which will accrue under this bequest is £465,000. This is in addition to a specific bequest of £25,000.

THE ASSOCIATION OF PUBLIC VACCINATORS OF ENGLAND AND WALES.—The annual dinner of this association was held at the Royal York Hotel, Brighton, on March 14th, the President, Mr. George Jackson, of Plymouth, being in the chair. After the usual loyal toasts the President, in proposing the toast of "The Association," said that it was established in 1898 and had since continued its career of usefulness with varying support. There were at present 630 members out of 3500 public vaccinators. This was not so large a proportion as they had had, or as they ought to have. The public effect of the association would be greatly enhanced if more joined them. He thought it would be well to consider whether a much larger number would not be gathered in even at the cost of a reduced subscription. The man who had perhaps only a dozen or so of vaccinations in a year was hardly likely to realise the importance of the association. Mr. Jackson spoke in warm terms of the service rendered by Dr. Arthur Drury, of Halifax, whose combating of the argument of Dr. W. R. Hadwen before the Manx Commission on Vaccination had undoubtedly materially contributed to what he considered one of the most important of recent steps in the fight—viz., the rejection of the conscience clause submitted by the House of Keys. As it was, there was all over the country an accumulation of dangerous material that would sooner or later overwhelm all sanitary precautions. He referred to some of the grievances of their body, not the least of which was insecurity of tenure, so that public vaccinators were liable to dismissal almost at a moment's notice. Dr. A. E. Cope, of Westminster, in responding, told how the idea of the society had been suggested to him in 1897 by the Local Government Board inspector who was inspecting his vaccinations, who pointed out the great service it could render not only to the public vaccinators themselves, but to the authorities. After consultation with Dr. Mitchell, of Lambeth, and Dr. James, of Bermondsey, a meeting was called which resulted in the formation of the association, with Dr. E. C. Greenwood as first president. He eulogised the literary work done by Dr. Drury to bring the work of the public vaccinator before the country. He quoted a parable in which a parallel was drawn between fireproofing and vaccination, between fire brigades and sanitation. No matter to what a pitch of perfection we might carry our fire brigades and appliances, we must not give up our fireproofing. Mr. Arthur Maude, the retiring president, proposed the health of his successor in the chair, Mr. George Jackson, whom he described as the backbone of the profession in the West of England, whose services to the British Medical Association had been very great, and who had represented the profession as one of its elected Members on the General Medical Council. Mr. Jackson acknowledged the toast before leaving. Mr. Maude then took the chair, and Dr. Drury gave the toast of "The Visitors." They were proud to have with them, he said, Dr. S. Monckton Copeman, of the Local Government Board, Dr. W. Ainslie Hollis, President of the British Medical Association, and Dr. Henry Gervis, chairman of the local division of the association, Dr. D. Forbes, medical officer of health for Brighton; Dr. J. F. G. Dill, senior physician, and Mr. R. F. Jowers, senior surgeon, of the Royal Sussex Hospital; besides the representatives of the medical press and other visitors. Dr. Hollis

replied briefly, and Dr. Gervis also replied, and said that when he was applied to by conscientious objectors he always advised them to read the old novels. In modern novels the hero or heroine died of "brain fever," or went off in a "decline," but in the old novels, which dealt with pre-vaccination times, the ever-present fear with every one was the small-pox. He said that the vaccinators represented the vanguard of the treatment of the future, which looked as though it would consist of inoculation therapy. The public vaccinator would ultimately supersede the parson, for in the time to come the immoral man would be vaccinated from a highly moral character to cure his diseased morals. His hearers might laugh, but stranger things had happened. A good musical programme was provided.

LITERARY INTELLIGENCE.—The new catalogue of the W. B. Saunders Company, revised to February, 1914, forms a useful guide to the publications of this firm. The descriptions of books on medicine, surgery, dentistry, nursing, and veterinary practice are accompanied in many cases by specimen illustrations, and the indices of authors and subjects make reference easy. The catalogue will be sent post free to members of the medical profession on request.—Messrs. Longmans and Co. announce for early publication a new book, by Professor W. M. Bayliss, entitled "Principles of General Physiology," which will treat of the fundamental properties of animal and vegetable cells and organisms, somewhat on the lines of the "Phénomènes de la Vie," of Cl. Bernard.

ROYAL SANITARY INSTITUTE.—A provincial sessional meeting will be held at Birmingham on March 27th and 28th. On the opening day, in the University, a discussion will take place at 7.30 P.M. on "The Certification of Milk and its Effect on the General Milk Supply," to be opened by Mr. Wilfred Buckley, who will be followed by Professor A. Bostock-Hill, M.D., Mr. J. Malcolm, F.R.C.V.S., Dr. George Reid, and Dr. John Robertson. General discussion is invited. The chair will be taken by Dr. Louis C. Parkes. Tickets for admission of visitors may be obtained from Dr. J. Robertson, medical officer of health, Council House, Birmingham, who is acting as the local honorary secretary of the meeting, and of Mr. E. White Wallis, secretary of the Institute, 90, Buckingham Palace-road, London, S.W.

ABERDEEN MATERNITY HOSPITAL.—At the annual meeting of this hospital held on March 10th it was reported that many Approved Societies under the National Insurance Act were paying 10*s.* for cases treated in the hospital and 7*s.* 6*d.* for cases treated outside by the staff and visiting nurses. In this respect the Aberdeen Hospital seems to have fared better than any other of the Scottish hospitals. A movement was in progress to bring all the Scottish hospitals into line in relation to the Act. The number of cases treated in the hospital during the year was 185, a decrease of 56 on the previous year; in the patients' homes 111 cases, a decrease of 151 on the previous year, were treated. The falling off in numbers, especially of district cases, was undoubtedly the result of the Insurance Act, some of the outside patients being under the impression that if they went into hospital they would lose their money benefit. The maternity hospitals in Edinburgh, Glasgow, and Dundee had been affected proportionately in the same manner. Twenty-three nurses in training passed through the hospital during the year, all receiving their certificates. Forty-three students attended during the year and the amount received in fees was £135 9*s.*

NELSON HOSPITAL FOR WIMBLEDON AND MERTON.—The annual meeting of the supporters of this institution, being the new building of the South Wimbledon, Merton and District Cottage Hospital, was held on March 16th, when a very satisfactory report was presented. A comparison of the accounts of 1911, the last year in the old building, with 1913, the first year in the new, showed that the hospital's income had actually doubled, in accompaniment with the work done. In 1911 there were 14 beds and cots; in 1913, there were 26. The expenditure in 1911 for maintenance purposes was £673 0*s.* 9*d.*, in 1913 it was £1378 5*s.* 3*d.*, while the corresponding income had risen from £685 10*s.* 3*d.* to £1415 19*s.* 8*d.* In addition a sum of £1758 17*s.* 6*d.* had been received for the building fund. The need for extension has already become manifest, for although there are at present only 26 beds, on several occasions in 1913 28 patients have been accommodated. The supporters of the hospital are therefore urged to relax no effort in obtaining funds for the maintenance and the future enlargement of the hospital. The year 1914 has opened well, for already a cheque for £250 has been received towards endowment, and other promises have been made.

UNIVERSITY COLLEGE HOSPITAL.—The annual general meeting of members of the corporation of the hospital will be held on Tuesday, March 26th, in the board room, at 3.30 P.M. The agenda include the election of a President, Vice-Presidents, Treasurer, and other officers, and consideration of the reports upon the condition and prospects of the hospital and medical school respectively, and accounts of the income, expenditure, and property.

THE SPITAL SERMON.—The annual Spital Sermon will be preached at Christ's Church, Newgate-street, London, on Wednesday, April 22nd, at 3 o'clock, before the Lord Mayor and Corporation of the City of London and the governors of the five Royal Hospitals (St. Bartholomew's, St. Thomas's, Christ's, Bridewell, and Bethlem). The preacher will be the Right Rev. Watkin Herbert Williams, Bishop of Bangor.

THE VICTORIA HOSPITAL, BLACKPOOL.—An awkward situation has arisen at this hospital owing to the summary dismissal by a subcommittee of the board of management of the hospital of two nursing sisters who had given information, in answer to invitation, with regard to the food-supply to the residents in the institution. The medical board of the hospital, finding that the dismissal of the nurses had been too drastic, and considering them as having had no intention to be disloyal to the matron, asked the board of management to reconsider their course of action. This the board of management refused to do, and after an abortive conference between the subcommittee and the medical staff, four of the five members of the medical staff handed in their resignations, to take effect a month from that day—namely, Jan. 11th, 1914. One local practitioner was obtained to partly fill the gap, and a second who lived near was for a time enlisted. He has since resigned. The hospital with 80 beds and a corresponding out-patient department appears at present to be staffed by one of the original staff, and by his partner who has since been appointed to one of the vacancies, with the assistance of a new house surgeon. A meeting of the local practitioners at Blackpool has resulted in a resolution supporting the attitude of the resigning members of the medical staff. The local practitioners have pledged themselves not to accept any appointment at the hospital until there is a complete reorganisation of the board of management, while their resolution adds "that all future appointments should be open to the profession generally."

ROYAL VICTORIA INFIRMARY, NEWCASTLE-ON-TYNE.—At the annual court of the governors of this institution recently held, with the Lord Mayor of the city (Councillor Johnston Wallace) in the chair, the annual report of the charity, which was presented, stated that the demands upon the institution were greater than ever. The Lord Mayor pointed out that during the last 13 years the number of in-patients had almost doubled and that there was a waiting list of about 1200 persons. Therefore the house committtee had put before the governors the request for authority to appeal to the public for the funds necessary to extend the hospital and to maintain it when extended. He foreshadowed a prospective appeal to the public for this purpose to the extent of £100,000. After the report had been adopted Mr. John Cairns moved a special resolution expressing strong disapproval of the proposal contained in Clause 1 of the Bill shortly to be presented to Parliament to extend the Truck Act, whereby an employer is prevented from making any deduction from the wages of workmen in respect of subscriptions or payments to any hospital. The resolution authorised the house committee to take such steps as seemed necessary to secure an amendment of the clause. Some £20,000 are provided annually by the workmen, and both the proposer of the resolution and his seconder made it clear that if the clause in the Bill were passed as it stood it would inflict a most serious blow on the infirmary. The resolution was carried unanimously. In the report itself it is stated that the average

number of patients per day was 411·65, and the average stay 17·65 days. The attendances in the out-patient department were 101,736, as compared with 113,862 in 1912. The cost per patient was £4 10*s.* 11*d.*, as compared with £4 11*s.* 6*d.* in 1912, and the cost per occupied bed was £94 0*s.* 6*d.*, as against £89 6*s.* 2*d.*

ABERDEEN DISPENSARY.—At the annual meeting of the Aberdeen Dispensary held on March 10th it was reported that the number of cases dealt with had dropped by nearly 43½ per cent. since 1911. It was, therefore, agreed that the number of medical officers be reduced from six to five, the vacancy which fell to be filled at this time being left unfilled and the district rearranged to suit the new arrangement. The total number of cases treated at the dispensary during the year was 7387, compared with 9310 in the previous year. Attention was drawn to the decrease in the number of primary vaccinations performed during the year. The conscientious objectors' clause had led to an enormous reduction of vaccinated children throughout the country.

QUEEN'S HOSPITAL, BIRMINGHAM.—The seventy-third annual report of this institution for the year 1913 shows that there has been a reduction in the number of out-patients, of whom 31,674 were treated, as against 36,217 the previous year. This is accounted for by the number of trivial and less important cases which are now treated by panel doctors. The number of in-patients was 3013, or a small reduction over last year. The income was £10 847, against £11,868 in 1912 (which included a contribution of £1000). The expenditure was £17,554, as compared with £16,871 the previous year. The actual deficit on the year's working was £6707 0*s.* 2*d.* The hospital treated no fewer than 6249 insured persons as out-patients and 969 as in-patients. Most of these were sent to the hospital by panel doctors for special treatment or operation. It is stated in the report that during the year 58 subscribers withdrew, and 10 reduced their subscriptions, giving the Insurance Act as the reason.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Condition of the Blind.

AN Interdepartmental Committee is to be set up to inquire into the condition of the blind. This subject was discussed in the House of Commons on Wednesday, March 11th, and an interesting statement on it was made by Mr. HERBERT LEWIS, the Parliamentary Secretary to the Local Government Board, who spoke for the Government.

Mr. LEWIS in the course of his remarks said that honourable Members had been told that there were 34,000 blind persons in the United Kingdom. The number of blind people in proportion to the total population had shown a steady decrease since the year 1851. Women were less subject to blindness than men were except at a very advanced age. Of the whole population 760 out of every million males were blind, but the number amongst females was only a little over 700. Out of the total number of blind persons of the age of 10 years and upwards 35 per cent. of the men were occupied, as against only 9 per cent. of the women, and these figures showed that the need of finding occupation was much more acute in the case of the women than of the men. It had been said in the course of the debate that the only thing which the State had done for the blind was action in regard to the disease known as ophthalmia neonatorum. That statement did not cover the whole ground. Parliament had passed the Elementary Education (Blind and Deaf Children) Act, 1893, and it provided for the compulsory education of the blind from the ages of 5 to 16. Under that Act accommodation was provided for 2400 blind children at 41 day and residential schools, and there were more than 1900 on the registers of those schools. The Home Office had also done something to abate the evil of blindness. Optic neuritis was in the past a very frequent feature of lead poisoning in pottery work, but the Regulations which had been made by the Home Office requiring the removal of dust and periodical medical examination of the workers had been so effective that at present practically no cases of this kind at all had been reported. The Insurance Act would in the course of a few months enable a large number of blind people to receive benefit. The action of the Local Government Board in reference to the compulsory treatment of ophthalmia had been referred to. At present 36 per cent. of the blindness amongst school children was due to this disease. The action which had been taken by the municipalities under the voluntary powers which they possessed had been conducive to the very best possible results. Very few cases indeed occurred in which children were afflicted with blindness when proper precautions had been taken, and he trusted that the action of the Local Government Board to be taken at an early date would have the effect throughout the country of greatly lessening the suffering and loss of sight which this disease caused at the present time. With regard to the work of the Board of Education in preventing defective eyesight, let him say that school inspection had done a great deal in this direction. Extra guidance in the use of the eyes in school work had been given. Spectacles had been provided, and it would be agreed that preventive work of this kind was the very best description of work which the department could undertake. Having spoken of the excellent work done by voluntary institutions for the blind, he said that what the Government proposed to do at the earliest possible moment was to appoint an Interdepartmental Committee to consider the whole question of the condition of the blind. The necessity for such an inquiry would be admitted on all hands. The report on the Census for 1900 recommended that expert opinion should be taken as to what constituted blindness. From the inquiries which had been made prior to 1911 it appeared that there were many diverse opinions as to how blindness should be defined. A definition which had met with a certain amount of international acceptance and employment and must have therefore some degree of continuity was possible, but the English experts considered it inadequate to the requirements. That showed that it was obviously necessary in the first instance to inquire as to what the definition was. Then it was necessary to collect statistics which would have to be obtained from a variety of sources, and it would not be easy to obtain all the required information. For example, there were some charities which were partially for the blind and partially for other purposes. Then information would have to be ascertained with regard to the sufficiency of accommodation in the various institutions. The committee would have to make some estimate of the effect of the Insurance Act upon its work and would have to ascertain the number of old age pensioners who were blind. That information was not at present available from the Census returns. And there was also the important question whether some use could not be made, whether by means of correlation or otherwise, of the funds which were now in the hands of charities who at the present moment were doing their best to carry out their philanthropic duties in the best possible way. Parliament would require to have all this information and, he had no doubt, more information upon this question. He, however, wished to make it perfectly clear that this inquiry was not to be instituted with a view to postponing the consideration of the question, but rather with a view to expediting it. The inquiry would be set up at the earliest possible moment. He was bound to say on behalf of the Government that they could not anticipate what the findings of the committee would be, and they could not at the present moment give any undertaking on the points that would come within the scope of the inquiry.

The Navy and the Medical Professson.

Two points of medical interest are noted by Mr. CHURCHILL, the First Lord of the Admiralty, in his explanatory memorandum on the navy estimates. He mentions that a civilian oculist has been added to the medical consultative board to advise on questions arising as to the eyesight in the navy, and the services of Sir John Tweedy, F.R.C.S., have been secured for the first appointment. It is mentioned that a new branch of the Royal Naval Volunteer Reserve is being formed of medical students who have completed a certain portion of their training but are not fully qualified medical practitioners. These officers will be styled surgeon probationers, and it is hoped that will prove later on a valuable addition to the reserves of medical officers. The surgeons probationers will rank with sub-lieutenants R.N.V.R.

Assistants to Chemists and Druggists (Qualification) Bill.

Mr. GLYN-JONES has presented a Bill in the House of Commons "to make provision with regard to the compounding of medical prescriptions by assistants to persons, firms, or bodies corporate entitled to carry on the business of a chemist and druggist." It has been read a first time.

Nurses' Registration Bill.

The text of the Nurses' Registration Bill recently introduced by Dr. CHAPPLE in the House of Commons has been published. Its objects and aims have been embodied in a memorandum. That document states that hitherto no minimum standard of knowledge for professional nurses has been defined or enforced. The object of the Bill is to ensure that the community shall have a guarantee that the nurses they employ are skilled in their professional duties,

and through standardisation to give security to the public that the services of fully qualified nurses shall be readily obtainable.

It is further explained in the memorandum that the Bill establishes a "General Council for the Registration of Nurses in the United Kingdom," composed of persons appointed by the Privy Council, the Local Government Boards in the United Kingdom, associations of registered medical practitioners, and direct representatives of the nursing profession.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 11TH.

School Clinics in Monmouthshire.

Mr. TREVELYAN (Parliamentary Secretary to the Board of Education) informed Mr. J. WILLIAMS that the number of local authorities in England and Wales that had established school clinics for the treatment of children attending public elementary schools was 115. The total number of clinics was approximately 200. The reports of the school medical officers showed that in a large percentage of cases the treatment afforded had been effective. The Monmouthshire education authority had established a clinic at Newport for treating defects of the eyesight. They had under consideration the establishment of further school clinics. It was estimated in the school medical officer's report for 1912 that the number of children in the area between seven and eight years with defective vision was 1294 out of 10,535, or 12·3 per cent., and that the number of children between five and eight years with defective teeth was 22,242 out of 22,683, or 98 per cent. He (Mr. Trevelyan) was, of course, not responsible for these figures, nor was he in a position to say how long it would take to deal with these cases.

Treatment of Tuberculous Patients.

Mr. HUME-WILLIAMS asked the President of the Local Government Board how many hospitals or other institutions intended for the care of the sick had been commandeered for the purpose of tuberculosis patients under the National Insurance Act; and what arrangements had been made for the housing elsewhere of the patients for whose benefit those institutions were intended at the time when they were so taken.—Mr. HERBERT SAMUEL (by written answer) replied: The use of the term commandeered is not understood. So far as England is concerned the Local Government Board have approved of voluntary arrangements for the use of vacant infectious diseases hospitals in 31 instances, and of spare accommodation at such hospitals in 59 cases, for the treatment of tuberculous patients, on condition that such patients are removed in the event of the accommodation being required for cases of other infectious diseases.

Avoiding Risk of Spreading Infection.

Mr. ASTOR asked the President of the Local Government Board to state in how many instances in the last three years had local authorities taken power through clauses in local Acts to compensate persons for giving up their employment at the request of the medical officer of health in order to avoid the risk of spreading infection.—Mr. HERBERT SAMUEL wrote in reply: Twelve local authorities have in the last three years obtained power by local Act to compensate persons for giving up their employment at the request of the council or of the medical officer of health for the purpose of preventing the spread of infectious disease. In addition seven local authorities have obtained power by local Act during the same period to compensate dairymen who cease to supply milk, and two to compensate common lodging-house keepers for the closing of their lodging-house under similar circumstances.

THURSDAY, MARCH 12TH.

Medical Inspection in Irish National Schools.

Mr. O'DONNELL asked the Chief Secretary to the Lord Lieutenant of Ireland what amounts had been voted and spent in the last two financial years for medical inspection in Irish national schools; and whether, seeing the failure of the scheme, he had any other proposals to secure for Irish children the advantages of medical inspection such as was given in England and Scotland.—Mr. BIRRELL replied: The Commissioners of National Education inform me that the amount voted for the purpose of dental inspection in schools for the year 1912-13 was £7500, of which only £263 2*s.* 6*d.* was spent, the balance being returned to the Exchequer. For 1913-14 a sum of £5000 was voted, but the amount expended cannot yet be determined. The conditions of the grant are that for every £1 contributed by the State £1 should be raised from local sources. There has been a large and constant increase in the number of schemes approved during 1913-14, and I see no reason to believe that the present arrangement has failed. There is no power, without legislation, to transfer to the county councils the administration of the funds provided for this purpose.

Accounts of London Panel Chemists.

Mr. GODFREY LOCKER-LAMPSON asked the honourable Member for St. George's-in-the-East, as representing the Insurance Commissioners, whether the panel chemists in the area of the London Insurance Committee had been paid their accounts in full for 1913.—Mr. WEDGWOOD BENN replied: My right honourable friend is informed that no settlement has as yet been effected, but that advances have been made to the extent of over 80 per cent. of the bills presented, which have not all been checked.

Mr. LOCKER-LAMPSON: May we take it for granted that the accounts will be paid in full finally?—Mr. WEDGWOOD BENN: I cannot say what the result will be until the accounts have been checked.

Boracic Acid in Cream.

Mr. PETO asked the President of the Board of Agriculture whether he could make a definite regulation under Section 4 of the Sale of Food and Drugs Act, 1899, fixing the limit of boracic acid to be allowed to be used in preserving cream at 35 grains to the pound, or 0·5 per cent., which was the amount recommended by the Departmental Committee (1901) on Preservatives for use in Butter.—Mr. RUNCIMAN answered: As at present advised I am not satisfied that it is desirable in the public interest to make a regulation defining the quantity of boracic acid which may be added to cream as a preservative. I am considering the matter in consultation with the President of the Local Government Board.

Mr. PETO: Is the right honourable gentleman aware and does he agree that he has complete power in this matter under Section 4 of the Sale of Food and Drugs Act?—Mr. RUNCIMAN: I should not like without notice to define exactly the powers of the Bill. Everything I did, I did in consultation with the President of the Local Government Board.

Mr. PETO: Is the right honourable gentleman aware that the supply of cream to the public and the dairy industry are practically in a state of chaos at present owing to the vague and indefinite nature of the Regulations issued last year by the Local Government Board?

No reply was given.

Carriers of Infectious Disease.

Mr. ASTOR asked the President of the Local Government Board how many local authorities had requested the Board to apply the provisions of the Infectious Diseases (Notification) Acts to the first case of measles and whooping-cough occurring in a household during the last 12 months; and how many local authorities had drawn the attention of the Local Government Board to the great difficulty experienced in dealing with carriers of diphtheria, and had asked the Board to permit legislation to enable sanitary authorities to treat the carriers as persons suffering from an infectious disease.—Mr. HERBERT LEWIS (on behalf of Mr. HERBERT SAMUEL) replied: In answer to the first part of the question, the Devon county council in December last passed a resolution requesting the Board to apply the provisions of the Notification Acts to the first case of measles or whooping-cough occurring in a household. No other local authority has made any such application in the last 12 months. Legislation would be required to enable me to give effect to the proposal. In answer to the second part of the question, four or five sanitary authorities have recently drawn the Board's attention to various difficulties in dealing with carriers of diphtheria, and the Devon county council has suggested that legislation should be promoted to enable sanitary authorities to treat carriers as persons suffering from infectious disease.

MONDAY, MARCH 16TH.

Institutional Treatment of Tuberculosis.

Replying to Mr. ASTOR, Mr. WEDGWOOD BENN said: The great majority of Insurance Committees have necessarily under their provisional arrangements availed themselves of the existing institutional treatment outside their own areas. Apart, however, from this necessity, the accommodation provided for Insurance Committees under comprehensive county or county borough schemes must often naturally and advantageously be situated outside their areas.

A Moneylender's Circular to Medical Men.

Mr. JOYNSON-HICKS asked the Chancellor of the Exchequer whether he was aware that within a few days of writing to the Insurance Commissioners for their overdue medical fees several doctors had received a circular from a firm of moneylenders offering loans to be met as payments were received from the National Insurance Commissioners, and whether he would take the most stringent steps to prevent the names of doctors who so wrote from getting into the hands of moneylenders.—Mr. LLOYD GEORGE wrote in reply: Payments to doctors on the panel are made by Insurance Committees and not by the Commissioners, but I am satisfied that in the instance brought to my notice by the honourable member the moneylender's circular cannot in any way be connected with any correspondence between

the Committee and the doctors in question. I would remind the honourable member, however, that publicity is necessarily accorded to the names of panel doctors in connexion with the medical benefit arrangements, and that it is not unknown for moneylenders to issue circulars wholesale to any sections of the community, whose names are readily accessible to them.

Panel Practitioners in Manchester and Salford.

Mr. GLAZEBROOK asked the Secretary to the Treasury whether he was aware that out of the 83 doctors on the panel list in Salford 55 were also on the Manchester panel list; whether there were many other cases of such overlapping; and whether many of these same doctors were also on the panel lists of neighbouring country places.—Mr. WEDGWOOD BENN wrote in reply: My right honourable friend is informed that of the doctors on the Salford panel, who number approximately 113, approximately the number mentioned in the honourable Member's question are also on the Manchester panel. Many other similar cases are doubtless in existence where doctors' practices happen to fall within more than one Insurance Committee area.

Answering Mr. GODFREY LOCKER-LAMPSON, Mr. WEDGWOOD BENN wrote: The only Insurance Committee in whose areas the doctors are now working on a per attendance system are Manchester and Salford. In the following areas, however, that system was originally adopted either in whole or in part and discarded at the end of the first quarter of medical benefit—viz., Blackpool, Canterbury, Cambridgeshire, Dorset, Eastbourne, Kent, Stoke-on-Trent, Suffolk West, Wallasey, and Zetland.

TUESDAY, MARCH 17TH.

School Clinics for Dental Defects.

Mr. TREVELYAN informed Mr. CHARLES BATHURST that the number of local education authorities who had established school clinics limited to treatment of dental defects was 17. The number of these clinics was 29.

Treatment of St. Kilda Islanders.

Mr. J. M. HOGGE asked the Secretary for Scotland what steps the Local Government Board for Scotland was taking to meet the need for medical service on St. Kilda.—Mr. MCKINNON WOOD replied: I am informed that the Highlands and Islands (Medical Service) Board have decided to send a fully qualified nurse to St. Kilda as a temporary and experimental measure. The nurse has now been engaged, and she will be sent to the island as soon as arrangements can be made for her to reside there.

Imports of Opium.

Mr. BURNS (President of the Board of Trade), replying to Mr. ROBINSON, said: In the last five years the annual imports of opium into this country have averaged 528,000 lb. and the exports (including a small quantity dried and powdered in the United Kingdom) 235,000 lb., leaving a net quantity of 293,000 lb. A large proportion of this was used in the manufacture of morphia and morphia salts for export, but there were no available statistics as to the quantity, actually retained for consumption in the United Kingdom nor as to the purposes for which or the persons to whom it was distributed.

Milk Samples.

Mr. HERBERT SAMUEL (President of the Local Government Board) informed Mr. ASTOR that in the year 1912, which was the latest year for which complete information was at present available, samples of milk were taken for analysis by every local authority under the Sale of Food and Drugs Acts. The number of samples of milk and cream taken during the year was 52,501.

Schemes for the Treatment of Tuberculosis.

Mr. ASTOR asked the President of the Local Government Board how many local authorities had intimated to the Board that they were prepared to treat tuberculous persons who were other than insured persons or dependents under the grant promised by the Chancellor of the Exchequer in a letter to Mr. Hobhouse dated July 31st, 1912.—Mr. HERBERT SAMUEL answered: 115 councils have submitted to the Local Government Board schemes for providing treatment for persons suffering from tuberculosis. In every case the scheme either expressly provides for the treatment of non-insured persons as well as insured, or makes no distinction between insured and non-insured persons.

The Drug Fund in Lancashire.

Mr. GODFREY LOCKER-LAMPSON asked the Secretary to the Treasury what were the names of the Insurance Committees in Lancashire which expected a deficiency in the drug fund, and which met at Blackburn on the 6th inst. in order to consider the question of the payment of the panel chemists' accounts and to make representations to the Insurance Commissioners; and whether the representations they had made could be laid before the House.—Mr. WEDGWOOD BENN said, in reply: My right honourable friend understands that the conference decided that it would be premature to make any representations to the Commissioners on the subject of deficiencies until the provisions of the Regulations with regard to scrutiny and surcharging had been put into operation and it had been ascertained whether there was, in fact, any deficiency. No representations have been received by the Commissioners from the conference.

Panel Attendance in Rural Districts.

Mr. COWAN asked the honourable Member for St. George's-in-the-East, as representing the Insurance Commissioners, what steps the Insurance Commissioners proposed to take to provide medical attendance by panel doctors in country places which were at present without resident medical practitioners and to which doctors from a distance objected to come.—Mr. WEDGWOOD BENN answered: The arrangements for medical benefit provide that the doctors on the panel for any area are collectively responsible for the medical attendance of all insured persons in that area. If my honourable friend has in mind the circumstances of any particular district I shall be glad to make inquiries.

Medical Officers of Health.

Mr. ASTOR asked the President of the Local Government Board how many full-time and how many part-time medical officers of health were employed by local authorities in England and Wales; how many of the former received a salary of £500 or over; and how many received less than £500.—Mr. HERBERT SAMUEL furnished the following written answer: The figures, so far as they can be ascertained from the Local Government Board's records, are as follows:—

Authorities.	Number of medical officers of health not in private practice.	Number not in private practice who receive total remuneration of £500 or over.	Number not in private practice who receive total remuneration less than £500.	Number of medical officers of health engaged in private practice.
Counties	61	49	12	—
City of London ... ... } Port of London ... ... } Metropolitan boroughs ... }	30	30	—	—
Other sanitary authorities	221	159	62	1125
Total	312	238	74	1125

In each case the total remuneration received from public appointments has been taken.

Exemptions from Vaccination.

Mr. HERBERT SAMUEL furnished the following written reply to Mr. JOHN WARD in regard to vaccination: The number of statutory declarations of conscientious objection to vaccination received by vaccination officers during the first six months of 1913 is 147,980. The returns are not yet sufficiently complete to enable me to give an estimate of the total for the whole of 1913.

WEDNESDAY, MARCH 18TH.

Institutions for Treatment of Tuberculosis in Scotland.

Mr. ASTOR asked the Secretary for Scotland what was the total amount made available for Scotland by the Finance Act, 1911, for providing institutions for the treatment of tuberculosis; and how much of this had been spent in providing new dispensaries, sanatoria, and hospitals for the treatment of tuberculous patients; and would he give the names of those authorities who had already spent this money and also of those who had not yet spent any of the money which had been provisionally allocated to them.—Mr. MCKINNON WOOD answered: The amount referred to in the first portion of the honourable Member's question is £157,919. Except for the nominal sums aftermentioned grants will not be paid by the Local Government Board for Scotland to the local authorities pending final approval of their schemes, which in a number of instances are practically complete. Meantime several authorities have already made institutional provision with the approval of the Board for the treatment of persons suffering from tuberculosis, and the Board has made nominal grants to the county councils of the following counties in order to place them in a position to exercise their powers under Section 64 (2) of the National Insurance Act—namely, Ayr, Berwick, Dumfries, Fife, Forfar, Haddington, Inverness, Kirkcudbright, Linlithgow, Midlothian, Peebles, Renfrew, Roxburgh, Selkirk, and Wigton. In reply to the final inquiry I may say that no provisional allocation of the sum apportioned to Scotland has been made.

BOOKS, ETC., RECEIVED.

APPLETON, D., AND CO, London and New York.

Jungle Days: Experiences of a Woman Doctor in India. By Arley Munson, M.D. Illustrated. Price 10s. 6d. net.

ARNOLD, EDWARD, London.

Modern Anæsthetics. By J. Frederick W. Silk, M.D. Lond., Senior Anæsthetist and Lecturer on Anæsthetics at King's College Hospital. Price 3s. 6d. net.

BOERICKE AND TAFEL, Philadelphia.

The Elements of Homœopathic Theory, Practice, Materia Medica, Dosage, and Pharmacy. By Dr. F. A. Boericke and E. P. Anshutz. Price $1.

CAMBRIDGE UNIVERSITY PRESS, London and Cambridge.

The Respiratory Function of the Blood. By Joseph Barcroft, M.A., B.Sc., F.R.S. Price 18s. net.

CHRISTIAN LITERATURE SOCIETY FOR INDIA, London, Madras, and Calcutta.

A Text-book of Medical Entomology. By Walter Scott Patton, M.B. Edin., I.M.S. (Membre Correspondant de la Société de Pathologie Exotique), King Institute of Preventive Medicine, Guindy, Madras; and Francis William Cragg, M.D. Edin., I.M.S. (Fellow of the Entomological Society of London, Central Research Institute, Kasauli, Punjab.

CONSTABLE AND CO., London.

Dentists' Register. Price 3s. 4d.
Medical Register. Price 10s. 6d.

CROWDE, HENRY, AND HODDER AND STOUGHTON, London.

Treatment of Neurasthenia. By Dr. Paul Hartenberg. Translated by Ernest Playfair, M.B., M.R.C.P. Price 6s. net.

HEINEMANN, WILLIAM (REBMAN, LIMITED), London.

Ophthalmoscopic Diagnosis; based on Typical Pictures of the Fundus of the Eye: With Special Reference to the Needs of General Practitioners and Students. By Dr. C. Adam (Berlin). Translated by Matthias Lanckton Foster, M.D., Ophthalmic Surgeon to the new Rochelle Hospital. With 86 coloured pictures and 18 illustrations in the text. Price 25s. net.

HODDER, WILLIAM, AND CO., Edinburgh and London.

Notable English Trials: The Seddons. Edited by Filson Young. Price 5s.

KIMPTON, HENRY, London. A. STENHOUSE, Glasgow.

Diagnosis in the Office and at the Bedside: the Use of Symptoms and Physical Signs in the Diagnosis of Disease. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics, Materia Medica, and Diagnosis in the Jefferson Medical College of Philadelphia. Seventh edition, revised. 165 engravings and 10 plates. Price 18s. net.

KING, P. S., AND SON, London.

Child Labour in the United Kingdom: a Study in the Development and Administration of the Law relating to the Employment of Children. By Frederic Keeling, M.A., formerly Manager and Senior Organising Officer in the Board of Trade Labour Exchanges. Prepared on behalf of the British Section of the International Association for Labour Legislation. Price 7s. 6d. net.

LAURIE, T. WERNER, London.

How to become an Alpinist. By Frederick Burlingham. With 63 photographs. Price 6s. net.

LEWIS, H. K., London.

Health. By Mildred M. Burgess, M.D. Lond. With some original illustrations by Eleanor M. Cartwright, L.L.A. (Hons.). Price 1s. 6d. net.

Transactions of the British Proctological Society for the Year 1913, with a List of Officers. Edited by W. S. Handley. Price 2s. 6d. net.

The Climate of Portugal and Notes on its Health Resorts. By Dr. D. G. Dalgado, of the Academy of Sciences of Lisbon. Price 10s. 6d. net.

LONGMANS, GREEN, AND CO., London, New York, Bombay, and Calcutta.

Chemistry and its Borderland. By Alfred W. Stewart, D.Sc., Lecturer on Organic Chemistry in the Queen's University of Belfast. Eleven illustrations and two plates. Price 5s. net.

Alone in the Wilderness. By Joseph Knowles. Illustrated. Price 5s. net.

Flying: Some Practical Experiences. By Gustav Hamel and Charles C. Turner. With illustrations. Price 12s. 6d. net.

MACMILLAN AND CO., London.

Astrology in Medicine, being the Fitzpatrick Lectures delivered before the Royal College of Physicians, 1913, with Addendum on Saints and Signs. By Charles Arthur Mercier, M.D. Price 2s. net.

RICHARDS, GRANT, LTD., London.

Prostitution in Europe. By Abraham Flexner. With an Introduction by John D. Rockefeller, jun. Price 7s. 6d. net.

ROUTLEDGE, GEORGE, AND SONS, London. DUTTON, E. P., AND CO., New York.

Women Workers in Seven Professions: a Survey of their Economic Conditions and Prospects. Edited for the Studies Committee of the Fabian Women's Group by Edith Morley. Price 6s. net.

SOCIAL WELFARE ASSOCIATION FOR LONDON, London Wall, London.

Voluntary Homes and Orphanages for Poor Children (Report of Special Committee appointed by the Social Welfare Association). Price 6d. net.

WALTER SCOTT PUBLISHING COMPANY, London and Felling-on-Tyne, New York, and Melbourne.

Sexual Ethics: a Study of Borderland Questions. By Robert Michels, Professor of Political Economy at the University of Basle. Price 6s. net.

WILEY, JOHN, AND SONS, New York. CHAPMAN AND HALL, LIMITED, London.

Sugar Analysis. For Refineries and Experimental Stations and for Instruction in Schools of Chemical Technology. By Ferdinand G. Wiechmann, Ph.D. Third edition, rewritten. Price 12s. 6d. net.

A Laboratory Manual of Organic Chemistry for Beginners. By A. F. Holleman, Ph.D., F.R.A.Amst., an Appendix to the author's Text-book of Organic Chemistry. Edited by A. Jamieson Walker, Ph.D. Heidelberg, with the coöperation of the author. Second edition, partly rewritten. Price 4s. 6d. net.

Text-book of Organic Chemistry. By A. F. Holleman, Ph.D., F.R.A.Amst. Edited by A. Jamieson Walker, Ph.D. Heidelberg, assisted by Owen E. Mott, Ph.D. Heidelberg, with the coöperation of the author. Fourth edition, partly rewritten. Price 10s. 6d. net.

WRIGHT, JOHN, AND SONS, LIMITED, Bristol. SIMPKIN, MARSHALL, London. THE MACMILLAN COMPANY, Toronto.

Herbal Simples Approved for Modern Uses of Cure. By W. T. Fernie, M.D. Third edition, revised and enlarged. Price 6s. 6d. net.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ADAMS, E. W., M.D. Lond., has been appointed Medical Officer on the Staff of the National Insurance Office in London.

ALDERSON, GERALD GRAHAM, M.B., B.C. Camb., F.R.C.S. Eng., has been appointed Registrar to the Chelsea Hospital for Women.

ARCHER, S. H. L., L.R.C.P. & S. Edin., L.F.P.S. Glasg., L.S.A., has been appointed Medical Officer for the Banbury District of the Nantwich Union.

BLACKLOCK, B., M.D., Ch.B. Edin., has been appointed Director of the Runcorn Research Laboratory, Cheshire.

BUCKLEY, J. P., M.D., B.C. Cantab., M.B., M.S. Lond., F.R.C.S. Eng., has been appointed Honorary Assistant Surgeon to the Manchester Royal Infirmary.

EVANS, D. GORDON, M.B., B.S. Lond., has been appointed Senior House Surgeon to the Scarborough Hospital and Dispensary, Scarborough.

HEY, W. H., M.B., Ch.B. Vict., F.R.C.S. Eng., has been appointed Honorary Assistant Surgeon to the Manchester Royal Infirmary.

HICKEY, G. A., L.R.C.S. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the New Ross District of the county of Wexford.

IVENS, FRANCES, M.B., M.S. Lond., has been appointed Surgeon to the Samaritan Hospital for Women, Liverpool.

LONG, E. G., L.D.S. Eng., has been appointed Honorary Dental Surgeon to the Manchester Royal Infirmary.

MACCLANCY, D. I., M.B., B.Ch. N.U. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Milltown Malbay District of the county of Clare.

MELLAND, C. H., M.D. Lond., B.Sc. Vict., M.R.C.P. Lond., has been appointed Honorary Assistant Physician to the Manchester Royal Infirmary.

SOUTTER, J., M.R.C.S., L.R.C.P., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Hedon District of the county of York.

STEINBACH, H., M.R.C.S., L.R.C.P., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Knaresborough District of the county of York.

TURNER, WILLIAM, M.S. Lond., F.R.C.S. Eng., has been appointed External Examiner in Surgery to London University.

TYLECOTE, F. E., M.D., Ch.B., D.P.H. Vict., M.R.C.P. Lond., has been appointed Honorary Assistant Physician to the Manchester Royal Infirmary.

WILKINS, C. R., M.B., B.S. Durh., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Uttoxeter District of the county of Stafford.

WILLAN, R. J., M.B., M.S. Durh., F.R.C.S. Eng., has been appointed Honorary Assistant Surgeon to the Royal Victoria Infirmary, Newcastle-on-Tyne.

ZUNDEL, C. E., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Physician at the Dreadnought Hospital of the Seamen's Hospital Society, Greenwich.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERDEEN ROYAL INFIRMARY.—Second Assistant Ophthalmic Surgeon.

ANGLO-GERMAN HOSPITAL, Rosario, Argentina.—Resident Medical Officer. Salary £314 per annum, with rooms, board, laundry, &c.

AYR COUNTY HOSPITAL.—Resident House Surgeon. Salary £70 per annum, with board and residence.

BARNSLEY, BECKETT HOSPITAL AND DISPENSARY.—Second House Surgeon, unmarried. Salary £100 per annum, with apartments, board, and laundry.

BARNSTAPLE, NORTH DEVON INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £120 per annum, with residence, board, and laundry.

BATH, ROYAL UNITED HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

BENENDEN, KENT, NATIONAL SANATORIUM.—Assistant Medical Officer. Salary £120 per annum, with board, residence, and laundry.

BETHLEM HOSPITAL.—Two Resident House Physicians, unmarried, for six months. Salary at rate of £25 each per quarter, with apartments, board, and washing.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

BIRKENHEAD UNION.—Resident Assistant Medical Officer. Salary £120 per annum, with board, apartments, &c.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant for six months in Electrical Department. Salary at rate of 52 guineas per annum.

BIRMINGHAM, QUEEN'S HOSPITAL.—Two House Physicians, House Surgeon, and Obstetric and Ophthalmic House Surgeon for six months. Salary at rate of £50 per annum, with board, lodgings, and washing.

BIRMINGHAM UNION.—SELLY OAK INFIRMARY: Resident Assistant Medical Officer. Salary £160 per annum. DUDLEY-ROAD INFIRMARY: Resident Assistant Medical Officer. Salary £140 per annum, with apartments, rations, laundry, and attendance.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—Two House Surgeons for six months. Salary £75 per annum, with board, residence, and laundry.

BOURNEMOUTH, ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House Surgeon for six months, unmarried. Salary £100 per annum, with board, lodging, and washing.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £120 per annum, with board, residence, and laundry.

BRADFORD UNION, EASTBY SANATORIUM, near Skipton.—Assistant Resident Medical Officer (female), unmarried. Salary £130 per annum, with rations, apartments, and laundry.

BRIDGWATER HOSPITAL.—House Surgeon, unmarried. Salary at rate of £125 per annum, with board, lodging, and washing.

BRIGHTON AND HOVE HOSPITAL FOR WOMEN.—House Surgeon for six months, unmarried. Salary £80 per annum, with apartments, board, attendance, &c.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road.—House Surgeon for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-resident House Surgeon for six months. Salary at rate of £150 per annum.

BRISTOL, COSSHAM MEMORIAL HOSPITAL, Kingswood.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

BRISTOL GENERAL HOSPITAL.—Anæsthetist two days a week for six months in Dental Department. Salary £15.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Physician. Salary £80 per annum, with board, rooms, attendance, and laundry.

BRISTOL ROYAL INFIRMARY.—Two House Surgeons, House Physician, and Throat, Nose, and Ear House Surgeon, all for six months. Salaries at rate of £100 per annum, with board, apartments, and laundry.

BURLEY-IN-WHARFEDALE, SCALEBOR PARK ASYLUM.—Assistant Medical Officer. Salary £220 per annum, with board, apartments, attendance, &c.

BURNLEY UNION WORKHOUSE.—Resident Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, rations, washing, and attendance.

CANCER HOSPITAL (FREE), Fulham-road, London, S.W.—House Surgeon for six months. Salary £70 per annum. Also Surgeon.

CARSHALTON, SURREY, QUEEN MARY'S HOSPITAL FOR CHILDREN.—Assistant Medical Officer. Salary £150 per annum, with board, lodging, and washing.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary £90 per annum, with board, apartments, and laundry.

DARLINGTON HOSPITAL AND DISPENSARY.—House Surgeon, unmarried. Salary £120 per annum, with board, lodgings, and laundry.

DERBY COUNTY ASYLUM, Mickleover, Derby.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

DEWSBURY AND DISTRICT GENERAL INFIRMARY.—House Surgeon. Salary £120 per annum, with board, residence, and washing.

DONCASTER ROYAL INFIRMARY AND DISPENSARY.—Assistant House Surgeon. Salary £100 per annum, with board, apartments, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Senior and Junior House Surgeon. Salaries £100 and £65 per annum respectively, with board and washing.

DUMFRIES, CRICHTON ROYAL MENTAL HOSPITAL.—Locum Tenens for six months. Salary at rate of 5 guineas per week, with board, lodging, laundry, and attendance.

ECCLES AND PATRICROFT HOSPITAL.—House Surgeon. Salary £70 per annum, with board, washing, and lodging.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Clinical Assistants in Out-patient Departments.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of 100 guineas per annum, with board, apartments, and washing.

FOLKESTONE, ROYAL VICTORIA HOSPITAL.—Resident House Surgeon. Salary £100 per annum, with apartments, board, and laundry.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant Surgeon.

GREAT YARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary £140 per annum, with board, lodging, and washing.

GROSVENOR HOSPITAL FOR WOMEN, Vincent-square, Westminster, S.W.—Honorary Assistant General Surgeon.

HALIFAX ROYAL INFIRMARY.—Second House Surgeon and Third House Surgeon, unmarried. Salary £100 and £30 per annum respectively, with residence, board, and washing.

HASTINGS, EAST SUSSEX HOSPITAL.—Assistant House Surgeon. Salary at rate of £80 per annum, with residence, board, and washing.

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL.—Resident Medical Officer. Salary £120 per annum, with rooms, board, and washing.

HOSPITAL OF ST. JOHN AND ST. ELIZABETH, 40, Grove End-road, N.W.—Resident Medical Officer, unmarried, for six months. Salary at rate of £80 per annum, with rooms, board, laundry, and attendance.

HULL ROYAL INFIRMARY.—Casualty House Surgeon for six months. Salary at rate of £80 per annum, with board and lodging.

HULL WORKHOUSE INFIRMARY, Beverley-road.—Resident Assistant Medical Officer. Salary at rate of £170 per annum, with board and other usual allowances.

LEICESTER ROYAL INFIRMARY.—Assistant House Surgeon and Assistant House Physician for six months. Salaries at rate of £80 per annum, with board, apartments, and washing.

MACCLESFIELD, CHESHIRE COUNTY ASYLUM, Parkside.—Locum Tenens for three or four months. Salary 4 guineas per week, with board, lodging, and washing.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

MANCHESTER, ANCOATS HOSPITAL, Mill-street.—Three Anæsthetists two mornings per week. Salary £20 per annum each.

MANCHESTER ROYAL INFIRMARY.—Assistant Surgical Officer. Also Assistant Medical Officer. Salary £35 per annum each.

MANCHESTER ROYAL INFIRMARY, CONVALESCENT HOSPITAL, Cheadle.—Assistant Medical Officer, unmarried, for six months. Salary at rate of £80 per annum, with board and residence.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Assistant Dental Surgeon.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Junior House Surgeon for six months. Salary at rate of £85 per annum, with board, residence, and laundry.

MONTREAL, ROYAL VICTORIA HOSPITAL.—Pathologist.

MUKTESAR, INDIA, IMPERIAL BACTERIOLOGICAL LABORATORY.—Pathologist. Salary £560 per annum.

NEWARK-UPON-TRENT HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and laundry.

NOTTS EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £300 per annum.

PARISH OF SAINT LEONARD INFIRMARY AND WORKHOUSE, Shoreditch.—Resident Senior Assistant Medical Officer. Salary £200 per annum, with rations, apartments, and washing.

PORTSMOUTH CORPORATION MENTAL HOSPITAL.—Assistant Medical Officer, unmarried. Salary £225 per annum, with board, apartments, attendance, and washing.

PRESTON, COUNTY ASYLUM, Whittingham.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, and washing.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Pathologist and Registrar. Salary £200 per annum, with lunch. Also House Physician for six months. Salary at rate of £80 per annum, with board, residence, and washing.

ROCHDALE INFIRMARY.—Senior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.

ROTHERHAM HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, with board, lodging, and washing.

ROUSAY AND EGILSHAY, PARISH OF.—Resident Medical Officer. Salary £71 per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Honorary Anæsthetist.

ST. ALBANS, MIDDLESEX COUNTY ASYLUM, Napsbury.—Junior Assistant Medical Officer. Salary £250 per annum, with board, lodging, washing, and attendance.

ST. HELENA.—Assistant to Colonial Surgeon. Salary £250 per annum, partly furnished quarters, horse, and forage. FALKLAND ISLANDS: Assistant Colonial Surgeon. Salary £300 per annum, with unfurnished quarters.

SALFORD ROYAL HOSPITAL.—Junior House Surgeon and Casualty House Surgeon for six months. Salary at rate of £65 per annum each, with board and residence.

SALISBURY INFIRMARY.—Assistant House Surgeon, unmarried. Salary £50 per annum, with apartments, board, lodging, and washing.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Anæsthetist. Salary £15 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, &c.

SEAMAN'S HOSPITAL SOCIETY.—DREADNOUGHT HOSPITAL, Greenwich: Medical Registrar. Salary £100 per annum, with luncheon. Also Two House Physicians and Two House Surgeons for six months. Salary £50 per annum each, with board, residence, and washing. ALBERT DOCK HOSPITAL, Connaught-road, E.: House Surgeon and House Surgeon to Out-patients for six months. Salary £75 per annum each, with board, residence, and washing.

SHEFFIELD, EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—Female House Surgeon for Out-patient Department only. Salary £75 per annum, with board and residence.

SHEFFIELD ROYAL INFIRMARY.—House Surgeon and Ophthalmic House Surgeon for six months. Salary £80 per annum each, with board and residence.

SHEFFIELD UNION HOSPITAL, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £120 per annum, with apartments, rations, &c.

SOUTHWARK UNION INFIRMARY, East Dulwich-grove, S.E.—Second Assistant Medical Officer and Third Assistant Medical Officer. Salary at rate of £120 per annum each, with board, lodging, and washing.

SUNDERLAND BOROUGH ASYLUM, Ryhope.—Assistant Medical Officer. Salary £200 per annum.

SUNDERLAND ROYAL INFIRMARY.—House Physician and Junior House Surgeon. Salary £120 per annum, with board, residence, and laundry.

SURREY COUNTY COUNCIL, SURREY EDUCATION COMMITTEE.—Medical Practitioners specialising in Ophthalmic Surgery for appointments as Oculists. Salary at rate of 1 guinea for each school session of about two hours.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST ON THE SEPARATE PRINCIPLE.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, &c.

WAKEFIELD, CARDIGAN SANATORIUM.—Assistant Medical Officer. Salary £250 per annum, with partial board.

WAKEFIELD GENERAL HOSPITAL.—Second House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, 73, Welbeck-street, W.—Resident House Physician for six months. Salary at rate of £80 per annum.

WESTERN DISPENSARY, 33, Rochester-row, Westminster.—Resident Medical Officer. Salary £75 per annum, with apartments, attendance, &c.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford.—Junior House Physician. Salary at rate of £75 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Honorary Medical Registrar.

WEST RIDING COUNTY COUNCIL.—School Medical Inspector. Salary £325 per annum.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £100 per annum, with board, apartments, and washing.

WILTS COUNTY COUNCIL.—Assistant School Medical Inspector. Salary £300 per annum.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £90 per annum, with apartments, board, and laundry.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Also House Surgeon. Salary in each case £125 per annum, with board, rooms, and laundry.

WOOLWICH INFIRMARY, Plumstead.—Assistant Resident Medical Officer, unmarried. Salary £180 per annum, with apartments, rations, and washing.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Crewkerne, in the county of Somerset; and at St. Just, in the county of Cornwall.

Births, Marriages, and Deaths.

BIRTHS.

BERRY.—On March 16th, at 231, Shrewsbury-road, Forest Gate, the wife of William A. Berry, M.B., of a daughter.

PORTER.—On March 10th, at St. James's-road, Surbiton, the wife of George Porter, M.D., of a son.

SHATTOCK.—On March 12th, at Saville House, Sutton Court-road, Chiswick, the wife of Chas. R. Shattock, M.R.C.S., L.R.C.P., L.D.S., of a daughter.

MARRIAGES.

KEIR—OAKEY.—On March 10th, at St. Mary's Parish Church, Eastbourne, Ivan Cochrane Keir, M.D., to Olive Madeline Oakey youngest daughter of the late John and Sophia Oakey, of Surbiton and Folkestone.

DEATHS.

DEWAR.—On March 11th, at his residence, 56 Fernleaf-street, Moss Side, Manchester, James Dewar, F.R.C.S. Edin., in his 78th year.

ELLIOT.—On March 16th, after a short illness, George Stokoe Elliot, M.D., F.R.C.S.E., of Southwell, Notts, in his 77th year.

HAWKINS.—Very suddenly, at 73, London-street, Reading, Francis Henry Hawkins, M.D., M.R.C.P.

HERMAN.—On March 11th, at Cam, Gloucestershire, George Ernest Herman, M.B., F.R.C.P., late of Harley-street, W., aged 65.

PRITCHARD.—On March 13th, at "Holmby," Albert-road, Bognor, Trevor John Pritchard, M.B.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

HEALTH OF THE LEEWARD ISLANDS.

IN his report for 1912–13, just received at the Colonial Office, the Governor (Sir H. Hesketh Bell, K.C.M.G.) states that the year under review was fortunately free from all atmospheric disturbances, and was only marred by an inadequate rainfall. The general health of the population was good, though much still remains to be done for the improvement of sanitary conditions among the labouring classes. The preponderance of females is very marked in all the islands, the males numbering only 55,000, as compared with 72,000 of the other sex. At the Census of 1911 the population stood as follows: Antigua, 31,394; Barbuda, 871; St. Kitts, 26,283; Nevis, 12,945; Anguilla, 4075; Dominica, 33,863; Montserrat, 12,196; Redonda, 4; Virgin Islands, 5562; total, 127,193. In the year 1912 2557 patients (as against 2636 for the previous year) were admitted into the hospitals of the colony, and there were 384 deaths, as against 348 for 1911. There are two leper asylums in the colony—one at Rat Island, in Antigua, and the other at Fort Charles, in St. Kitts. In the former there were 33 lepers (15 males and 18 females) at the beginning of the year; 1 male and 2 females were admitted during the year, and 3 females died. There is no record in Antigua of any attendant at the asylum having contracted leprosy. The Alexandra Cottage Home for Incurables in Dominica, supported partly by voluntary contributions, maintained on an average 10 paupers.

Mr. T. L. Roxburgh, C.M.G., Administrator of St. Kitts and Nevis, reports that the birth-rate was 38·46 and the death-rate 22·38 per 1000. Of the patients treated in the hospital 18 suffered from malarial fever and 56 from yaws. Mr. Roxburgh adds: "The general health of the population was well maintained during the year, but there is still an excessive mortality among infants notwithstanding all efforts that have been made to instruct parents in the proper care of their children. For those—Europeans or natives—who are willing to regard the elementary laws of hygiene the islands are as healthy as any part of the world, and the climate in the cooler months is delightful." Mr. Leslie Jarvis, Acting Commissioner of Montserrat, gives the birth-rate there as 33·03 and the death-rate as 13·97 per 1000; and in the Virgin Islands, according to Mr. T. L. E. Clarke, M.D., C.M., Acting Commissioner, the birth-rate was 38 and the death-rate 17 per 1000.

THE MILWARD FUND.

To the Editor of THE LANCET.

SIR,—Since the list was published in your columns a subscription of 5 guineas has been received from Mr. W. Sampson Handley, London.—I am, Sir, yours faithfully,

WILLIAM SHEEN, Honorary Treasurer.

Cardiff, March 14th, 1914.

THE FROG AS INTESTINAL SCAVENGER.

To the Editor of THE LANCET.

SIR,—The gleanings of Mr. E. A. Rawlence among the farmfolk of Dorset, mentioned in your last issue, bring to mind that my brother a few years ago, visiting a kinsman in a lonely farmhouse among the Welsh hills and finding him in a low state of health, was taken aback to hear him express a fervent wish that he might be enabled to overcome the strong aversion he felt to swallowing a few live young frogs. A man who enjoyed locally a reputation for knowingness had advised him that they would do a world of good if he could "get them down," because, as he lucidly explained, they would clear away the "bad distempers from the inside."

I am, Sir, yours faithfully,

March 14th, 1914. BRYCHEINIOG.

RECUMBENT INVALID LIFTERS.

A CATALOGUE issued by Mr. Skeffington, of Ulundi-road, Blackheath, S.E., illustrates several of his useful contrivances, some of which are in use in our various hospitals and institutions, for dealing with invalids who are compelled to adopt a recumbent position. The invalid lifters are made in several types, and by their means, amongst other advantages, a patient can be prevented from slipping down towards the foot of the bed, thereby avoiding the difficulty, especially with a heavy patient, of getting him back again into a comfortable position; an invalid can be raised into a sitting posture, and there maintained, without exertion on his part or on the part of the nurse or attendant, for any period desired; a patient can be lifted, as on a hammock, bodily above the bed, so that the bed can be re-made underneath or a bed-pan be placed in position; a soiled sheet can be changed without

distressing the patient or causing any loss of muscular energy, and without turning the patient on one side, as is customary; a typhoid patient can be given a bath by lowering him in his sheet into a collapsible bath placed on the bed; and a patient can be placed in practically any desired position without having recourse to the more or less dangerous practice of "tilting" the bedstead. These invalid lifters, which were awarded a gold medal at the recent International Congress of Medicine, can be hired or purchased outright; and anyone who has to do with a case in which the patient has to adopt a recumbent position will be interested in this catalogue of practical appliances for the comfort and convenience of invalid and nurse.

J. A. S.—Insured persons have the right to change their source of medical treatment at the end of the year. The regulations are elaborate and our correspondent should study them. They can be purchased through any bookseller for 3½*d*.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London W.

THURSDAY.—Mr. J. H. Mummery: On the Nature of the Tubes in Marsupial Enamel and its Bearing upon Enamel Development (communicated by Prof. J. Symington).—Mr. W. T. Lockett: Oxidation of Thiosulphate by Certain Bacteria in Pure Culture (communicated by Prof. P. F. Frankland).—Mr. A. E. Everest: The Production of Anthocyanins and Anthocyanidins (communicated by Prof. F. Keeble).—Mr. A. J. Walton: Variations in the Growth of Adult Mammalian Tissue in Autogenous and Homogeneous Plasma (communicated by Prof. W. Bulloch).—Mr. E. C. Grey: (1) The Decomposition of Formates by B. Coli Communis; (2) The Enzymes which are Concerned in the Decomposition of Glucose and Mannitol by B. Coli Communis (communicated by Dr. A. Harden).—Surgeon-General Sir D. Bruce, Major A. E. Hamerton, Captain D. P. Watson, and Lady Bruce: Description of a Strain of Trypanosoma Brucei from Zululand—Part I., Morphology; Part II., Susceptibility of Animals.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.
SPECIAL MEETING OF FELLOWS: at 5 P.M.
Lecture:
Surgeon-General Gorgas on his Work at Panama.
SECTION OF ODONTOLOGY (Hon. Secretaries—Robert McKay, F. Coleman): at 8 P.M.
Paper:
Dr. T. J. Horder: Dental Sepsis from the Point of View of the Physician.

TUESDAY.
SECTION OF MEDICINE (Hon. Secretaries—H. Batty Shaw, John Fawcett): at 5.30 P.M.
Papers:
Dr. J. A. D. Radcliffe and Dr. D. L. V. de Wesselow: The Diagnosis of Pulmonary Tuberculosis.
Professor Theodore Schott (Nauheim): Recent Investigations on the Changes induced in the Circulatory Apparatus by Physical Methods of Treatment.
SECTION OF PSYCHIATRY (Hon. Secretaries—R. H. Cole, Bernard Hart): at 8.30 P.M.
Special Meeting (in conjunction with the BRITISH PSYCHOLOGICAL SOCIETY).
Paper:
Dr. H. Devine: The Biological Significance of Delusions.
Discussion:
On Dr. R. G. Rows' paper—The Importance of Disturbances of the Personality in Mental Disorders.

THURSDAY.
SECTION OF NEUROLOGY (Hon. Secretaries—T. Grainger Stewart, H. Campbell Thomson): at 8.30 P.M.
Paper:
Dr. David Orr and Dr. R. G. Rows: Experimental Infection of the Central Nervous System (with lantern demonstration).

FRIDAY.
SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—F. Langmead, Philip Turner, W. J. Midelton): at 4.30 P.M.
Cases:
Dr. E. A. Cockayne: (1) Ocular Torticollis; (2) Defective Development of Vertebræ and Ribs.
Mr. C. Max Page: (1) Hirschsprung's Disease; (2) Two Cases of Achondroplasia.
Dr. R. A. Chisolm: Spastic Diplegia.
Mr. Philip Turner: Multiple Exostoses.
Dr. J. Walter Carr: Specimen of Cirrhotic Liver with Perihepatitis.
Dr. F. G. Crookshank: (1) Congenital Heart Disease (? Patent Ductus Botalli and Pulmonary Stenosis); (2) Case of "Murmur."
SECTION OF EPIDEMIOLOGY AND STATE MEDICINE (Hon. Secretaries—G. S. Buchanan, William Butler): at 8.30 P.M.
Paper:
Mr. Major Greenwood, jun., and Mrs. Frances Wood: Changes in the Recorded Mortality from Cancer and their Possible Interpretation.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Sir St Clair Thomson: Three Years' Sanatorium Experience of Laryngeal Tuberculosis.—Mr. T. B. Layton: Tonsils and Adenoids in Children: a Plea for Fewer Operations.

PLYMOUTH MEDICAL SOCIETY, Athenæum Chambers, Athenæum-lane, Plymouth.

WEDNESDAY.—8 P.M., Clinical Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

TUESDAY AND THURSDAY.—5 P.M. Lumleian Lecture: Dr. J. A. Ormerod: Some Modern Theories concerning Hysteria. (Lectures II. and III.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. N. Meachen: Clinique (Skin). 5.15 P.M., Lecture:—Dr. N. Pitt: Intrathoracic Aneurysm.
TUESDAY.—4 P.M., Dr. E. B. Smith: Clinique (Medical). 5.15 P.M., Lecture:—Dr. T. G. Stevens: The Operative Treatment of Uterine Displacements.
WEDNESDAY.—4 P.M., Mr. M. Heath: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. Donelan: Some Forms of Nasal Obstruction and their Consequences.
THURSDAY.—4 P.M., Mr. B. R. Carling: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. C. McClure: The Serum Treatment of Consumption.
FRIDAY.—4 P.M., Mr. H. Tilley: Clinique (Ear, Nose, and Throat). 5.15 P.M., Lecture:—Dr. W. Wingrave: Suppuration.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. Bernstein: Diseases of the Blood.
TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Bernstein: Diseases of the Blood.
WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Shuman: Diseases of Women.
THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye.
FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.
SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. H. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Gynæcological (Dr. Banister). 3 P.M., Medical In-patients (Dr. R. M. Leslie).
TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Nose, Throat, and Ear (Mr. H. D. Gillies). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting).
WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 5.30 P.M., Eye Operations (Mr. Brooks).
THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).
FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. H. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. G. P. Chappel).

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Clinical Theatre, London Hospital, Mile End-road, E.

Course of Lectures on Syphilology:—
TUESDAY, WEDNESDAY, AND FRIDAY.—4.15 P.M., Dr. H. Head: The Nervous System.
The Schorstein Memorial Lectures (in the Anatomical Theatre):—
THURSDAY.—4.15 P.M., Dr. H. Head: The Clinical Aspect of Syphilis of the Nervous System.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4.30 P.M., Lecture:—Dr. Habershon: The Diagnosis of Early Pulmonary Tuberculosis.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, Medical School, City-road, E.C.

FRIDAY.—5 P.M., Lecture-Demonstration:—Dr. M. Leslie: Pleurisy.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital, Hackney-road, N.E.

MONDAY.—4 P.M., Demonstration:—Dr. A. E. Gow: Medical Cases.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3 P.M., Lecture:—Dr. A. Wylie: Diseases of the Larynx.
FRIDAY.—3 P.M., Mr. C. Nourse: Facts and Fallacies regarding Voice Production.

CANCER HOSPITAL, Museum of the Hospital, Brompton, S.W.

Post-Graduate Lectures on the Diagnosis and Treatment of Cancer:—
WEDNESDAY.—5 P.M., Mr. Knox: The Roentgen Diagnosis of Internal Growths.

ROYAL INSTITUTE OF PUBLIC HEALTH, Lecture Room of the Institute, 37, Russell-square, W.C.

Course of Instruction for Tuberculosis Officers, School Medical Officers, Medical Practitioners, &c.:—
FRIDAY.—5 P.M., The Diagnosis and Treatment of Tuberculosis, &c.—Lecture XI.:—Dr. H. O. West: A Co-ordinated Scheme.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.

TUESDAY.—SALFORD ROYAL HOSPITAL—4.30 P.M., Dr. Heywood: Some Functional Neuroses and their Treatment.
WEDNESDAY.—ROYAL INFIRMARY—4.30 P.M., Mr. Westmacott: Suppuration of the Accessory Cavities of the Nose.
THURSDAY.—ANCOATS HOSPITAL—4.30 P.M., Dr. Melland: Some Slight Ailments.
FRIDAY.—ROYAL EYE HOSPITAL—4.30 P.M., Dr. H. H. McNabb: Cases for Diagnosis.

For further particulars of the above Lectures, &c., see Advertisement Pages.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced. In 1914:—

April 13th and 14th (Berlin).—Thirteenth Congress of the German Orthopædic Society.
,, 13th–16th (New York).—Fourth Congress of the International Surgical Society. (President: Prof. Depage, Bruxelles.)
,, 15th–18th (Berlin).—Forty-third Congress of the German Surgical Society.
,, 19th–21st (Berlin).—"Jubilee" Congress of the German Röntgen Society.
,, 20th–23rd (Wiesbaden).—Thirty-first German Congress for Internal Medicine.
,, 27th–May 1st (London, Royal Horticultural Hall).—Nursing Conference and Exhibition.
May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.
May (London, Imperial Institute).—Victoria League Imperial Health Conference.
May–October (London, Shepherd's Bush).—Anglo-American Exposition.
June 18th–24th (London, Church House, Westminster).—International Conference on the Blind.
July 6th–11th (Blackpool).—Twenty-ninth Congress of the Royal Sanitary Institute.
,, 8th–10th (Oxford).—Ophthalmological Congress.
,, 8th–13th (Edinburgh).—Congress of the Royal Institute of Public Health.
,, 21st–23rd (Chester).—British Pharmaceutical Conference.
,, 27th–31st (London).—Fifth Annual Session of the Clinical Congress of Surgeons of North America.
,, 28th–31st (Aberdeen).—Eighty-second Annual Meeting of the British Medical Association.
Aug. 3rd–8th (London).—Sixth International Dental Congress.
,, 10th–15th (St. Petersburg).—Twelfth International Congress of Ophthalmology.
Sept. 7th–12th (Berne).—International Congress for Neurology, Psychiatry, and Psychology.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)
THE LANCET Office, March 18th, 1914.

Date.	Barometer reduced to Sea Level and 32°F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. in Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Mar. 12	29·63	S.W.	0·30	91	57	34	47	47	Overcast
,, 13	30·00	S.W.	0·10	64	56	46	47	47	Raining
,, 14	29·52	S.	0·15	79	53	47	48	49	Cloudy
,, 15	29·79	W.	0·13	83	50	47	46	48	Cloudy
,, 16	29·25	W.	0·34	61	47	45	42	46	Raining
,, 17	29·57	N.W.	0·01	89	52	37	38	40	Fine
,, 18	29·23	S.W.	0·05	83	49	40	41	41	Raining

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MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1913 were given in THE LANCET of Dec. 27th, 1913.

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